

# PHOTOFACT<sup>®</sup> with

# CIRCUITRACE<sup>®</sup>

For Supplier Address See PHOTOFACT Index

## NOTE

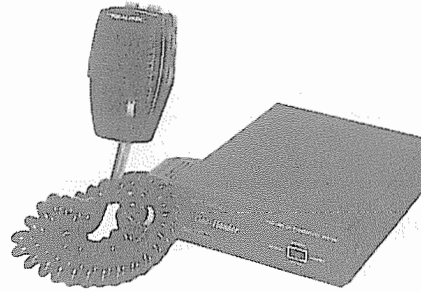
Repair or adjustment of transmitter circuits must be under supervision of a person with first-or second-class radiotelephone license.

(Refer to FCC Rules and Regulations Part 95, Subpart C & D.)

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Connect either 50-ohm dummy load or the normally used antenna system.



MODEL TRC-462 (21-1528)

## MANUFACTURER'S SPECIFICATIONS

| Description                     | Condition                                                                                                                   | Nominal                   | Limit                  |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------|
| <b>TRANSMITTER</b>              |                                                                                                                             |                           |                        |
| RF output                       | 13.8 V DC                                                                                                                   | 4 W (max.)                | 3.5–4.4 W              |
| AMC Range                       | 50–100% MOD.                                                                                                                | 40 dB                     | 30 dB                  |
| Frequency tolerance             |                                                                                                                             | 0.0005%                   | 0.005%                 |
| Microphone sensitivity          | 50% Mod.                                                                                                                    | 0.3 mV                    | 1 mV                   |
| Frequency response              | 450 Hz to 2.5 kHz<br>0 dB: 1 kHz                                                                                            | -6 dB                     | -10 dB                 |
| Spurious and harmonic radiation | Ratio to fundamental                                                                                                        | -65 dB                    | -60 dB                 |
| Current drain                   | Unmodulated<br>Max. modulation                                                                                              | 1.3 A<br>2.0 A            | 2 A<br>2.6 A           |
| <b>RECEIVER</b>                 |                                                                                                                             |                           |                        |
| Intermediate frequency          | 1st<br>2nd                                                                                                                  | 10.695 MHz<br>455 ± 1 kHz | 455 ± 2 kHz            |
| Sensitivity                     | 50 mW output<br>10 dB (S+N)/N                                                                                               | 0.5 μV                    | 1 μV                   |
| Selectivity                     | ± 10 kHz<br>-6 dB                                                                                                           | 80 dB<br>6 kHz            | 70 dB<br>6 ± 2 kHz     |
| Cross modulation                | At ± 100 kHz                                                                                                                | 60 dB                     | 50 dB                  |
| Signal to noise ratio           | At 1 mV input                                                                                                               | 40 dB                     | 35 dB                  |
| Squelch sensitivity             | Threshold<br>Tight                                                                                                          | 0.5 μV<br>1 mV            | 1 μV<br>0.3 mV to 3 mV |
| Frequency response              | 450 Hz to 2,500 Hz<br>0 dB : 1 kHz                                                                                          | ±6 dB                     | ±10 dB                 |
| Audio output                    | 8Ω 10% T.H.D. at EXT. SP.:<br>(Max. Input to built-in<br>Speaker/Microphone should<br>be limited to less than 1<br>minute.) | 3.5 W                     | 3 W                    |
| A.G.C. range                    | -10 dB AF range                                                                                                             | 90 dB                     | 80 dB                  |
| Current drain                   | Squelched<br>Max. volume                                                                                                    | 0.55 A<br>1 A             | 1 A<br>1.5 A           |

Courtesy of the Manufacturer

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

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9CE996

REALISTIC MODEL TRC-462

## ALIGNMENT INSTRUCTIONS

CAUTION: Use isolation transformer or observe polarity when connecting test equipment. Maintain line voltage at 120V AC. Allow a 15-minute warm-up period.  
Adjustments made with 13.8-volt DC input.  
Connect low sides of test equipment to ground unless specified otherwise.  
Connect 50-ohm dummy load or antenna before keying transmitter.  
Connect microphone.  
Suggested Alignment Tools:  
L5, L8, T1, T7 thru T15 ..... 9440  
T2, T3 ..... 5000,5009,8276,8728,9089  
L11, L14, L15 ..... 8728,9304,9089  
TC1, TC2 ..... 5000,8276,9089

## SYNTHESIZER ALIGNMENT

| TEST EQUIPMENT                                   | TRANSCEIVER | ADJUST      | REMARKS                                                                               |
|--------------------------------------------------|-------------|-------------|---------------------------------------------------------------------------------------|
| Input of oscilloscope to TP11 (T13 Secondary).   | Ch. 19      | T13         | Adjust for maximum RF (1.1 volt p-p typical). (See Figure 1.)                         |
| Input of frequency counter to TP4.               | Ch. 19      | TC1         | Adjust for 10.240MHz.                                                                 |
| Input of frequency counter to TP12 (IC3 Pin 13). | Ch. 19      |             | Check for 5.120MHz.                                                                   |
| Input of oscilloscope to TP6.                    | Ch. 19      | T15         | Adjust for maximum RF (350mV p-p typical). (See Figure 2.)                            |
| Input of DC meter to TP2.                        | Ch. 1       | L5          | Adjust for 1.00 volt $\pm$ .2 volts. Check for approximately 2.0 volts on Channel 40. |
| Input of oscilloscope to TP8.                    | Ch. 19      | T14         | Adjust for maximum RF (80mV p-p typical). (See Figure 3.)                             |
| Input of oscilloscope to TP3.                    | Ch. 19      | T15,T14     | Readjust for maximum RF and squarest waveshape (6 volts p-p typical). (See Figure 4.) |
| Input of frequency counter to TP3.               | Ch. 1       |             | Check for .910MHz. Check all channels. (See Truth Chart for correct frequencies.)     |
| Input of frequency counter to TP3.               | Ch. 1, XMT  |             | Check for 1.365MHz. Check all channels. (See Truth Chart for correct frequencies.)    |
| Input of oscilloscope to TP5.                    | Ch. 19      | T9          | Adjust for maximum RF (45mV p-p typical). (See Figure 5.)                             |
| Input of frequency counter to TP5.               | Ch. 1       |             | Check for 16.270MHz. Check all channels. (See Truth Chart for correct frequencies.)   |
| Input of frequency counter to TP5.               | Ch. 1, XMT  |             | Check for 16.725MHz. Check all channels. (See Truth Chart for correct frequencies.)   |
| Input of oscilloscope to TP1.                    | Ch. 19, XMT | T10,T11,T12 | Adjust for maximum RF (350mV p-p typical). (See Figure 6.)                            |
| Input of frequency counter to TP1.               | Ch. 1, XMT  |             | Check for 26.965MHz. Check all channels. (See Truth Chart for correct frequencies.)   |

## RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil.  
Adjust volume control to obtain a suitable indication. Set generator output low enough to prevent AGC limiting. Preset controls as follows, unless otherwise noted:  
Squelch MINIMUM.

| TEST EQUIPMENT                                                                                                                                                                                                                | TRANSCEIVER | ADJUST | REMARKS                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------|----------------------------------------------------------------------------|
| Output of signal generator thru .01uF to TP13 (Q6 Base).<br>455kHz, 1000Hz @ 30% modulation.                                                                                                                                  | Ch. 19      | T3,T2  | Adjust for maximum output.                                                 |
| Output of signal generator thru .01uF to antenna input.<br>27.185MHz, 1000Hz @ 30% modulation.                                                                                                                                | Ch. 19      | T1     | Adjust for maximum output.<br>Readjust T2 and T3 for maximum.              |
| Output of signal generator thru .01uF to antenna input.<br>27.185MHz, 1000Hz @ 30% modulation.<br>Output 1uV.<br>Input of oscilloscope to TP14 (D17 Cathode).<br>Inject a 100pps, 1uSec. pulse width signal at antenna input. | Ch. 19      | T7,T8  | Adjust for maximum pulse amplitude (250mV p-p typical).<br>(See Figure 7.) |

## RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.  
Adjust volume control to obtain a suitable indication.  
Preset controls as follows, unless otherwise noted:  
Squelch MINIMUM.

| TEST EQUIPMENT                                                                                                  | TRANSCEIVER               | ADJUST | REMARKS                                                                               |
|-----------------------------------------------------------------------------------------------------------------|---------------------------|--------|---------------------------------------------------------------------------------------|
| Output of signal generator thru .01uF to antenna input.<br>27.185MHz, 1000Hz @ 30% modulation.<br>Output 500uV. | Ch. 19<br>Squelch Maximum | VR1    | SQUELCH RANGE<br>Adjust so squelch just breaks.                                       |
| Output of signal generator thru .01uF to antenna input.<br>27.185MHz, 1000Hz @ 30% modulation.<br>Output 100uV. | Ch. 19                    | VR5    | S METER<br>Adjust for meter indication at lower edge of red area on S scale of meter. |

## TRANSMITTER ALIGNMENT

Connect a 25-watt dummy load to antenna connector.  
NOTE: Be sure to check transmit frequency and power on all active channels after alignment of transmitter.  
See page 4 for channel frequencies.

| TEST EQUIPMENT                                                 | TRANSCEIVER | ADJUST          | REMARKS                                     |
|----------------------------------------------------------------|-------------|-----------------|---------------------------------------------|
| Input of RF wattmeter to antenna input.                        | Ch. 19      | L8,L11,L14, L15 | Adjust for maximum RF output.               |
| Input of RF wattmeter to antenna input.                        | Ch. 19      | VR3             | Adjust for 4.0 watts RF output maximum.     |
| Input of spectrum analyzer or harmonic meter to antenna input. | Ch. 19      | TC2             | Adjust for MINIMUM at 54MHz (2nd harmonic). |

## TRANSMITTER ADJUSTMENTS

Connect a 50-ohm, 25-watt dummy load to antenna connector.  
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.  
See page 4 for channel frequencies.

| TEST EQUIPMENT                                                                                                  | TRANSCEIVER | ADJUST | REMARKS                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------|-------------|--------|-------------------------------------------------------------------------------------------------------------|
| Input of oscilloscope or modulation meter to antenna input.<br>Inject a 1000Hz, 20mV audio signal at mic input. | Ch. 19      | VR2    | AMC<br>Adjust for 90-100% modulation maximum.<br>(See Figure 8.)                                            |
| Input of RF wattmeter to antenna input.                                                                         | Ch. 19      | VR4    | RF METER<br>At 4.0 watts RF output, adjust meter indication at lower edge of red area on RF scale of meter. |

# TRUTH CHART

| CHANNEL | 1 = 6.10 Volts                      0 = 0 Volts |   |   |   |   |   |  |  | REC<br>DIVIDER<br>INPUT<br>IN MHz AT<br>TP3 | XMT<br>DIVIDER<br>INPUT<br>IN MHz AT<br>TP3 | REC<br>VCO OUTPUT<br>IN MHz AT<br>TP5 | XMT<br>VCO OUTPUT<br>IN MHz AT<br>TP5 | XMT SYNTH<br>OUTPUT<br>IN MHz AT<br>TP1 |
|---------|-------------------------------------------------|---|---|---|---|---|--|--|---------------------------------------------|---------------------------------------------|---------------------------------------|---------------------------------------|-----------------------------------------|
|         | CHANNEL INPUT CODES                             |   |   |   |   |   |  |  |                                             |                                             |                                       |                                       |                                         |
|         | IC3 PINS                                        |   |   |   |   |   |  |  |                                             |                                             |                                       |                                       |                                         |
|         | 6                                               | 5 | 4 | 3 | 2 | 1 |  |  |                                             |                                             |                                       |                                       |                                         |
| 1       | 0                                               | 0 | 0 | 0 | 0 | 1 |  |  | .910                                        | 1.365                                       | 16.270                                | 16.725                                | 26.965                                  |
| 2       | 0                                               | 0 | 0 | 0 | 1 | 0 |  |  | .920                                        | 1.375                                       | 16.280                                | 16.735                                | 26.975                                  |
| 3       | 0                                               | 0 | 0 | 0 | 1 | 1 |  |  | .930                                        | 1.385                                       | 16.290                                | 16.745                                | 26.985                                  |
| 4       | 0                                               | 0 | 0 | 1 | 0 | 0 |  |  | .950                                        | 1.405                                       | 16.310                                | 16.765                                | 27.005                                  |
| 5       | 0                                               | 0 | 0 | 1 | 0 | 1 |  |  | .960                                        | 1.415                                       | 16.320                                | 16.775                                | 27.015                                  |
| 6       | 0                                               | 0 | 0 | 1 | 1 | 0 |  |  | .970                                        | 1.425                                       | 16.330                                | 16.785                                | 27.025                                  |
| 7       | 0                                               | 0 | 0 | 1 | 1 | 1 |  |  | .980                                        | 1.435                                       | 16.340                                | 16.795                                | 27.035                                  |
| 8       | 0                                               | 0 | 1 | 0 | 0 | 0 |  |  | 1.000                                       | 1.455                                       | 16.360                                | 16.815                                | 27.055                                  |
| 9       | 0                                               | 0 | 1 | 0 | 0 | 1 |  |  | 1.010                                       | 1.465                                       | 16.370                                | 16.825                                | 27.065                                  |
| 10      | 0                                               | 1 | 0 | 0 | 0 | 0 |  |  | 1.020                                       | 1.475                                       | 16.380                                | 16.835                                | 27.075                                  |
| 11      | 0                                               | 1 | 0 | 0 | 0 | 1 |  |  | 1.030                                       | 1.485                                       | 16.390                                | 16.845                                | 27.085                                  |
| 12      | 0                                               | 1 | 0 | 0 | 1 | 0 |  |  | 1.050                                       | 1.505                                       | 16.410                                | 16.865                                | 27.105                                  |
| 13      | 0                                               | 1 | 0 | 0 | 1 | 1 |  |  | 1.060                                       | 1.515                                       | 16.420                                | 16.875                                | 27.115                                  |
| 14      | 0                                               | 1 | 0 | 1 | 0 | 0 |  |  | 1.070                                       | 1.525                                       | 16.430                                | 16.885                                | 27.125                                  |
| 15      | 0                                               | 1 | 0 | 1 | 0 | 1 |  |  | 1.080                                       | 1.535                                       | 16.440                                | 16.895                                | 27.135                                  |
| 16      | 0                                               | 1 | 0 | 1 | 1 | 0 |  |  | 1.100                                       | 1.555                                       | 16.460                                | 16.915                                | 27.155                                  |
| 17      | 0                                               | 1 | 0 | 1 | 1 | 1 |  |  | 1.110                                       | 1.565                                       | 16.470                                | 16.925                                | 27.165                                  |
| 18      | 0                                               | 1 | 1 | 0 | 0 | 0 |  |  | 1.120                                       | 1.575                                       | 16.480                                | 16.935                                | 27.175                                  |
| 19      | 0                                               | 1 | 1 | 0 | 0 | 1 |  |  | 1.130                                       | 1.585                                       | 16.490                                | 16.945                                | 27.185                                  |
| 20      | 1                                               | 0 | 0 | 0 | 0 | 0 |  |  | 1.150                                       | 1.605                                       | 16.510                                | 16.965                                | 27.205                                  |
| 21      | 1                                               | 0 | 0 | 0 | 0 | 1 |  |  | 1.160                                       | 1.615                                       | 16.520                                | 16.975                                | 27.215                                  |
| 22      | 1                                               | 0 | 0 | 0 | 1 | 0 |  |  | 1.170                                       | 1.625                                       | 16.530                                | 16.985                                | 27.225                                  |
| 23      | 1                                               | 0 | 0 | 0 | 1 | 1 |  |  | 1.200                                       | 1.655                                       | 16.560                                | 17.015                                | 27.255                                  |
| 24      | 1                                               | 0 | 0 | 1 | 0 | 0 |  |  | 1.180                                       | 1.635                                       | 16.540                                | 16.995                                | 27.235                                  |
| 25      | 1                                               | 0 | 0 | 1 | 0 | 1 |  |  | 1.190                                       | 1.645                                       | 16.550                                | 17.005                                | 27.245                                  |
| 26      | 1                                               | 0 | 0 | 1 | 1 | 0 |  |  | 1.210                                       | 1.665                                       | 16.570                                | 17.025                                | 27.265                                  |
| 27      | 1                                               | 0 | 0 | 1 | 1 | 1 |  |  | 1.220                                       | 1.675                                       | 16.580                                | 17.035                                | 27.275                                  |
| 28      | 1                                               | 0 | 1 | 0 | 0 | 0 |  |  | 1.230                                       | 1.685                                       | 16.590                                | 17.045                                | 27.285                                  |
| 29      | 1                                               | 0 | 1 | 0 | 0 | 1 |  |  | 1.240                                       | 1.695                                       | 16.600                                | 17.055                                | 27.295                                  |
| 30      | 1                                               | 1 | 0 | 0 | 0 | 0 |  |  | 1.250                                       | 1.705                                       | 16.610                                | 17.065                                | 27.305                                  |
| 31      | 1                                               | 1 | 0 | 0 | 0 | 1 |  |  | 1.260                                       | 1.715                                       | 16.620                                | 17.075                                | 27.315                                  |
| 32      | 1                                               | 1 | 0 | 0 | 1 | 0 |  |  | 1.270                                       | 1.725                                       | 16.630                                | 17.085                                | 27.325                                  |
| 33      | 1                                               | 1 | 0 | 0 | 1 | 1 |  |  | 1.280                                       | 1.735                                       | 16.640                                | 17.095                                | 27.335                                  |
| 34      | 1                                               | 1 | 0 | 1 | 0 | 0 |  |  | 1.290                                       | 1.745                                       | 16.650                                | 17.105                                | 27.345                                  |
| 35      | 1                                               | 1 | 0 | 1 | 0 | 1 |  |  | 1.300                                       | 1.755                                       | 16.660                                | 17.115                                | 27.355                                  |
| 36      | 1                                               | 1 | 0 | 1 | 1 | 0 |  |  | 1.310                                       | 1.765                                       | 16.670                                | 17.125                                | 27.365                                  |
| 37      | 1                                               | 1 | 0 | 1 | 1 | 1 |  |  | 1.320                                       | 1.775                                       | 16.680                                | 17.135                                | 27.375                                  |
| 38      | 1                                               | 1 | 1 | 0 | 0 | 0 |  |  | 1.330                                       | 1.785                                       | 16.690                                | 17.145                                | 27.385                                  |
| 39      | 1                                               | 1 | 1 | 0 | 0 | 1 |  |  | 1.340                                       | 1.795                                       | 16.700                                | 17.155                                | 27.395                                  |
| 40      | 0                                               | 0 | 0 | 0 | 0 | 0 |  |  | 1.350                                       | 1.805                                       | 16.710                                | 17.165                                | 27.405                                  |

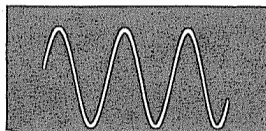


FIGURE 1

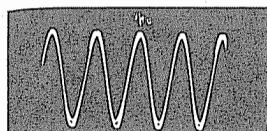


FIGURE 2

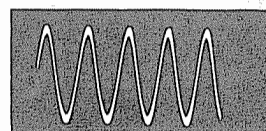


FIGURE 3

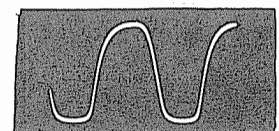


FIGURE 4

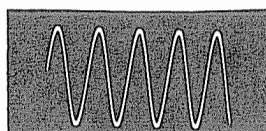


FIGURE 5

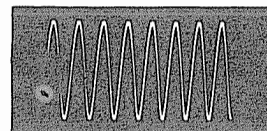


FIGURE 6

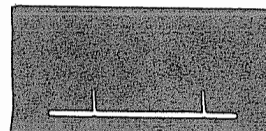


FIGURE 7

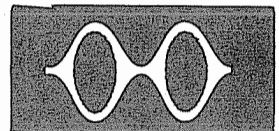
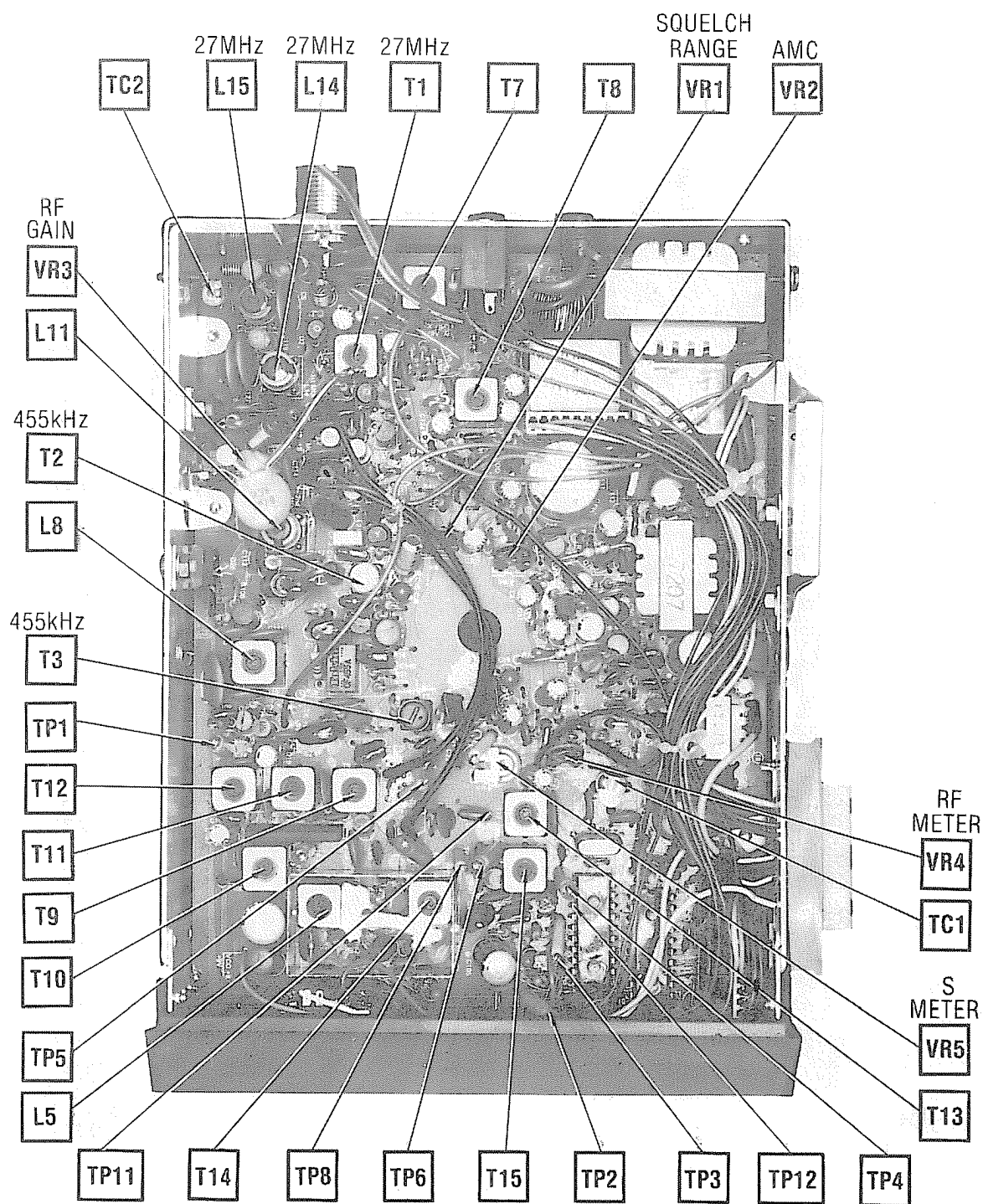
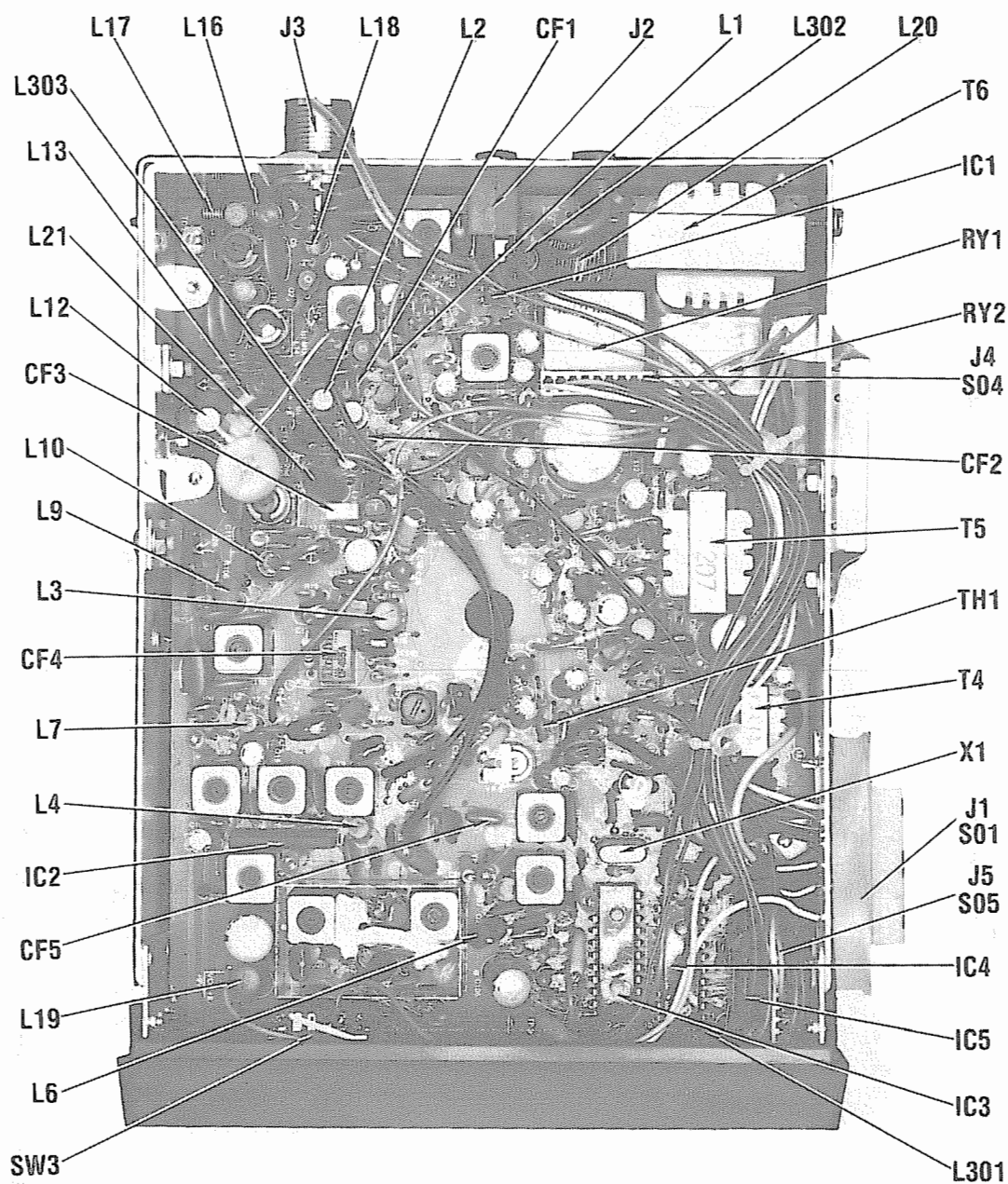


FIGURE 8

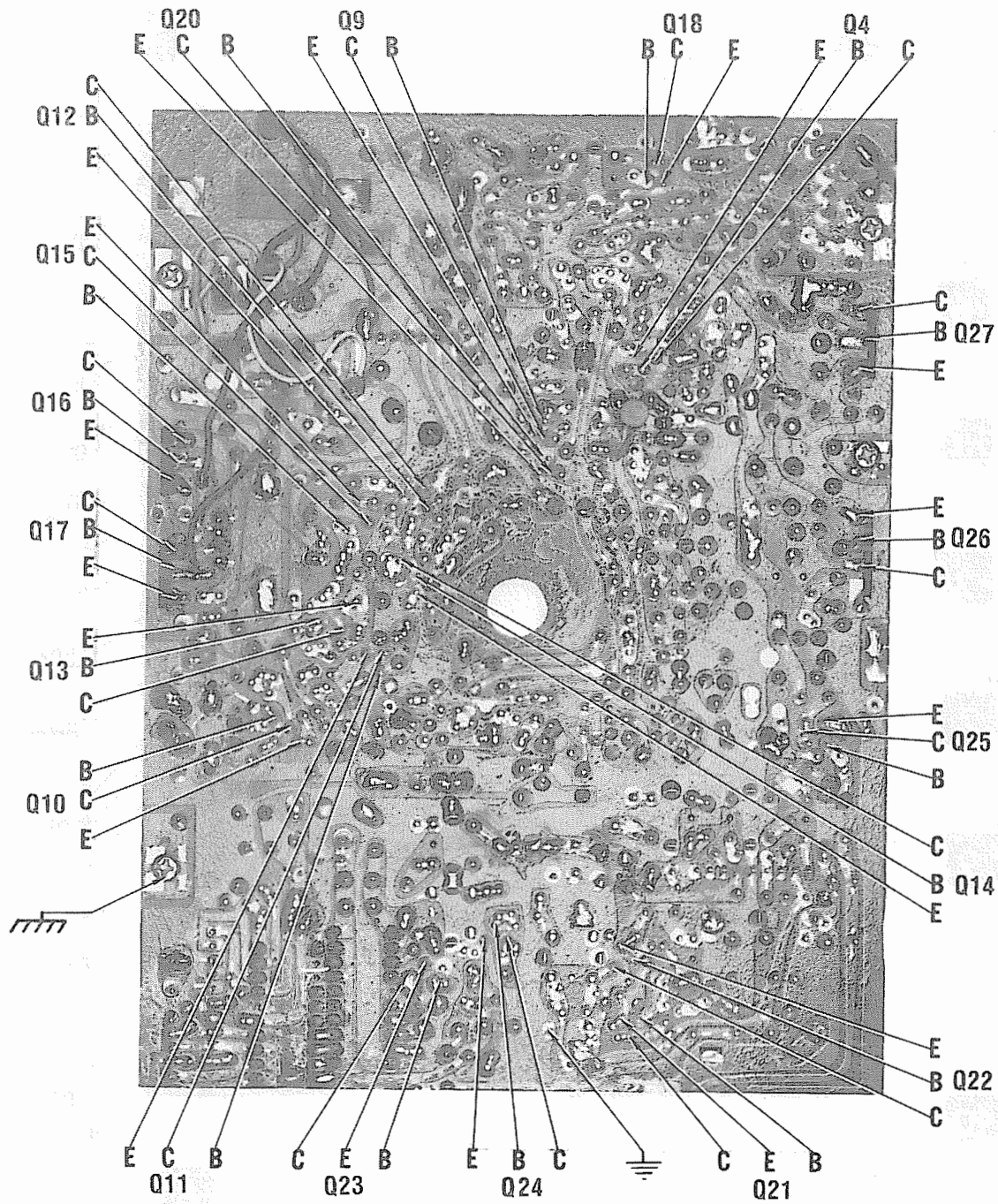


CHASSIS-BOTTOM

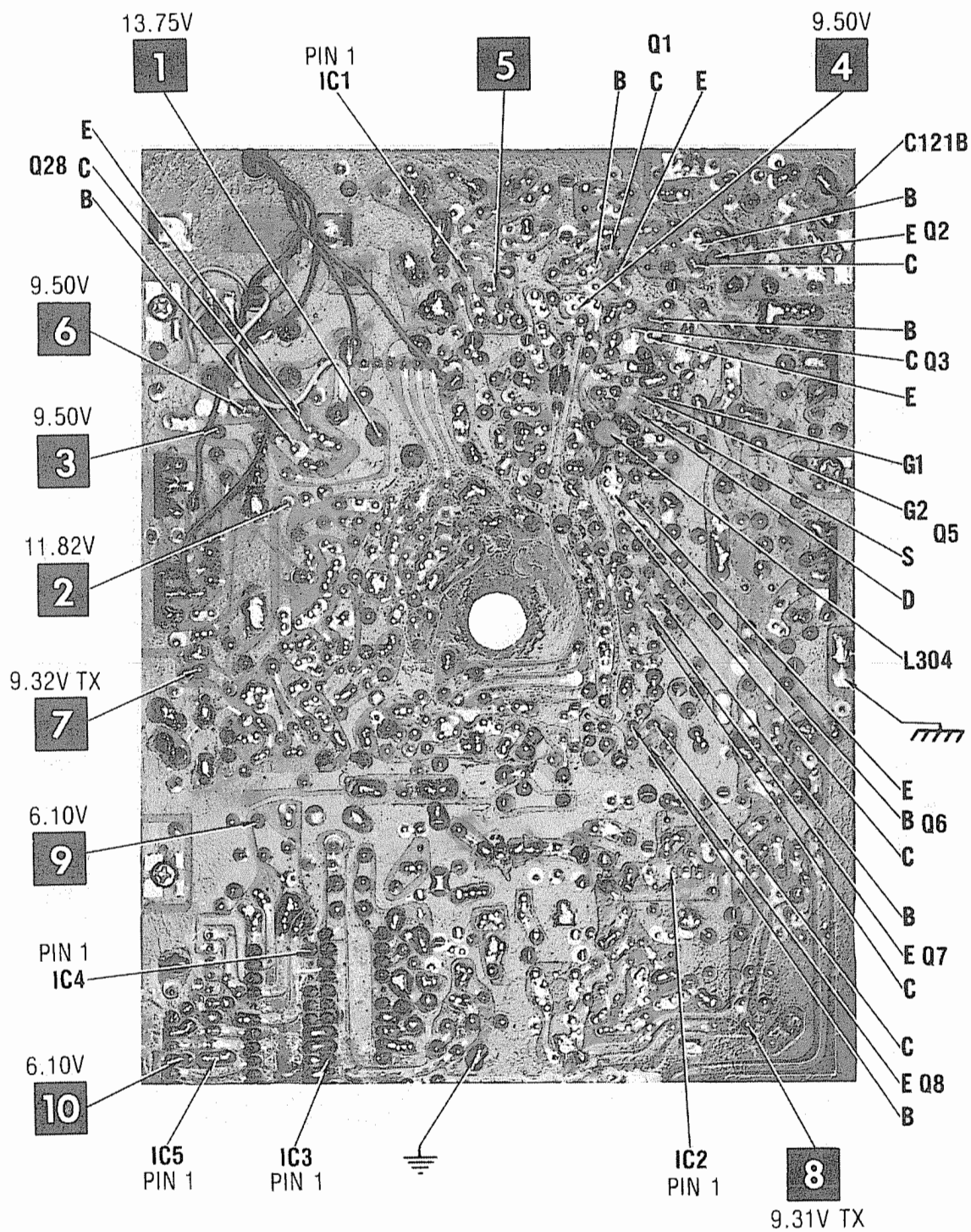


CHASSIS-BOTTOM



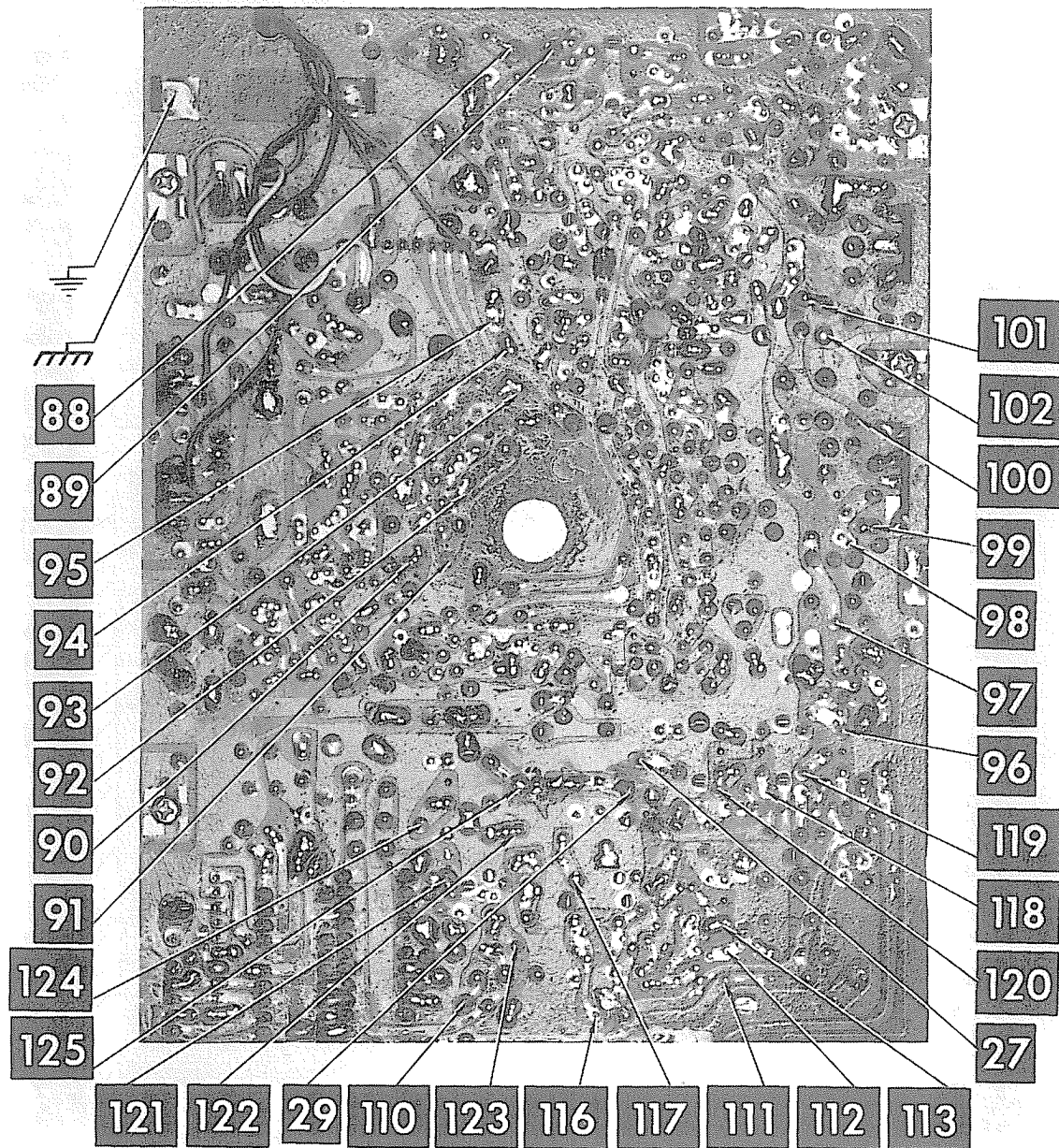


MAIN BOARD



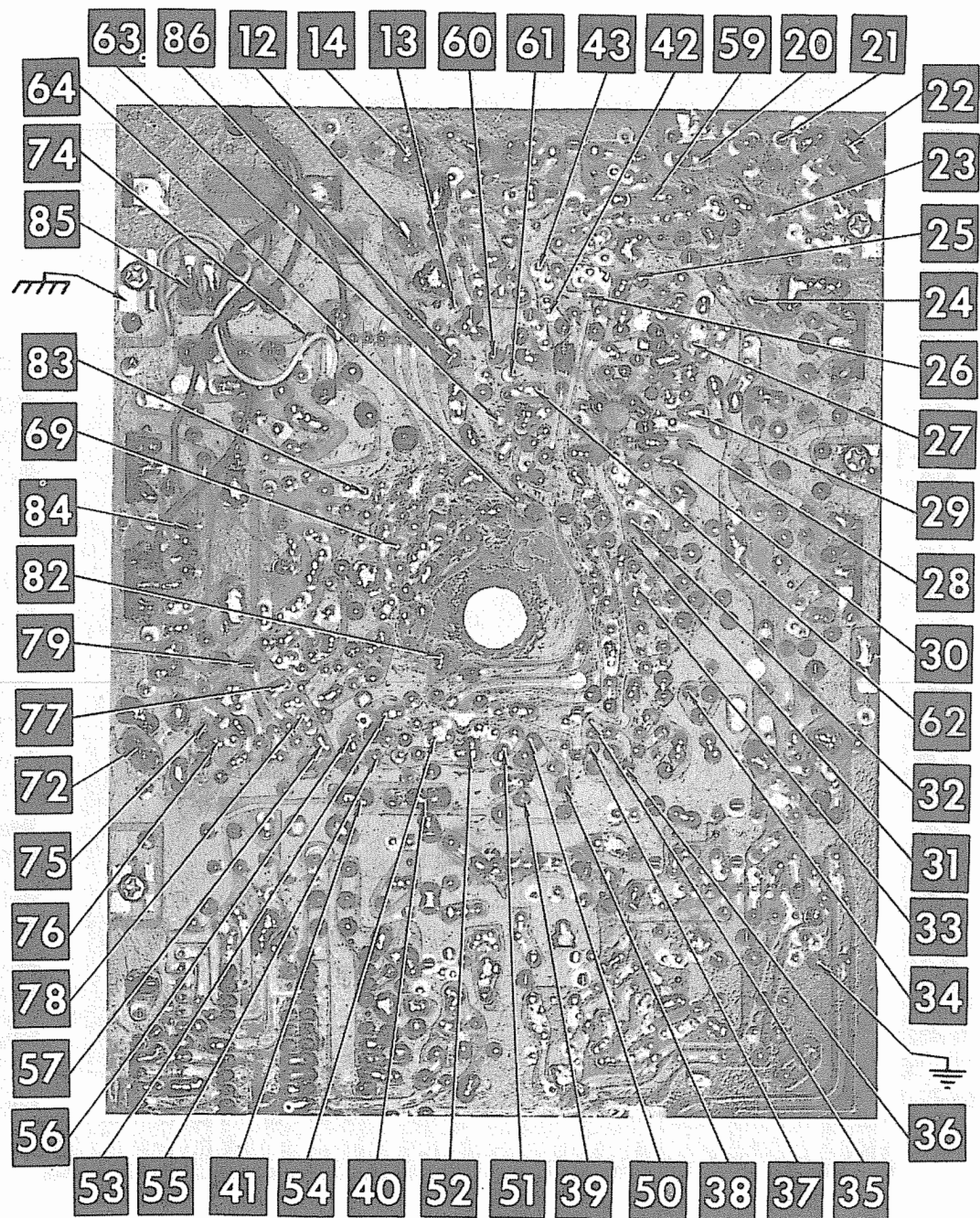
MAIN BOARD





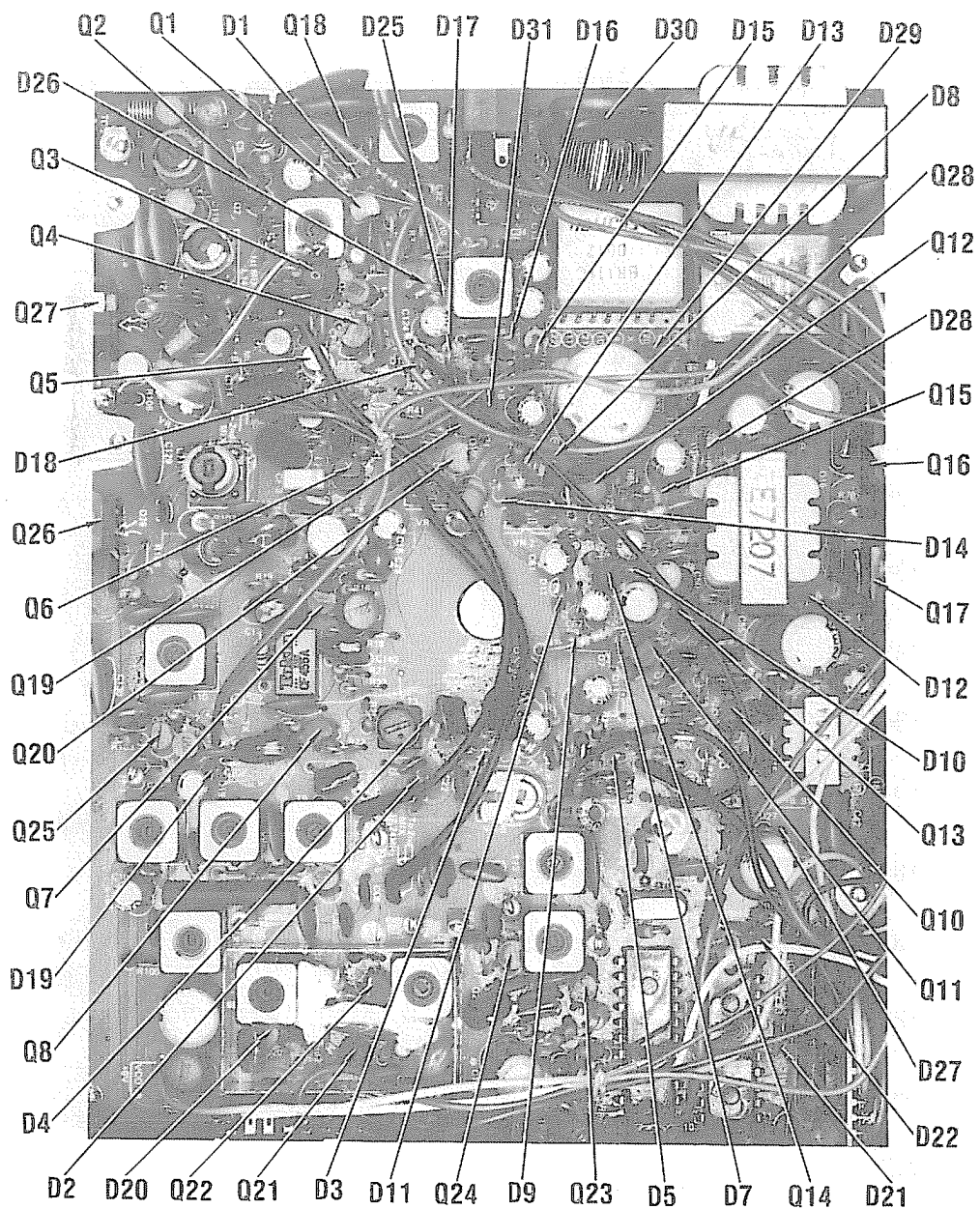
REALISTIC MODEL TRC-462

MAIN BOARD



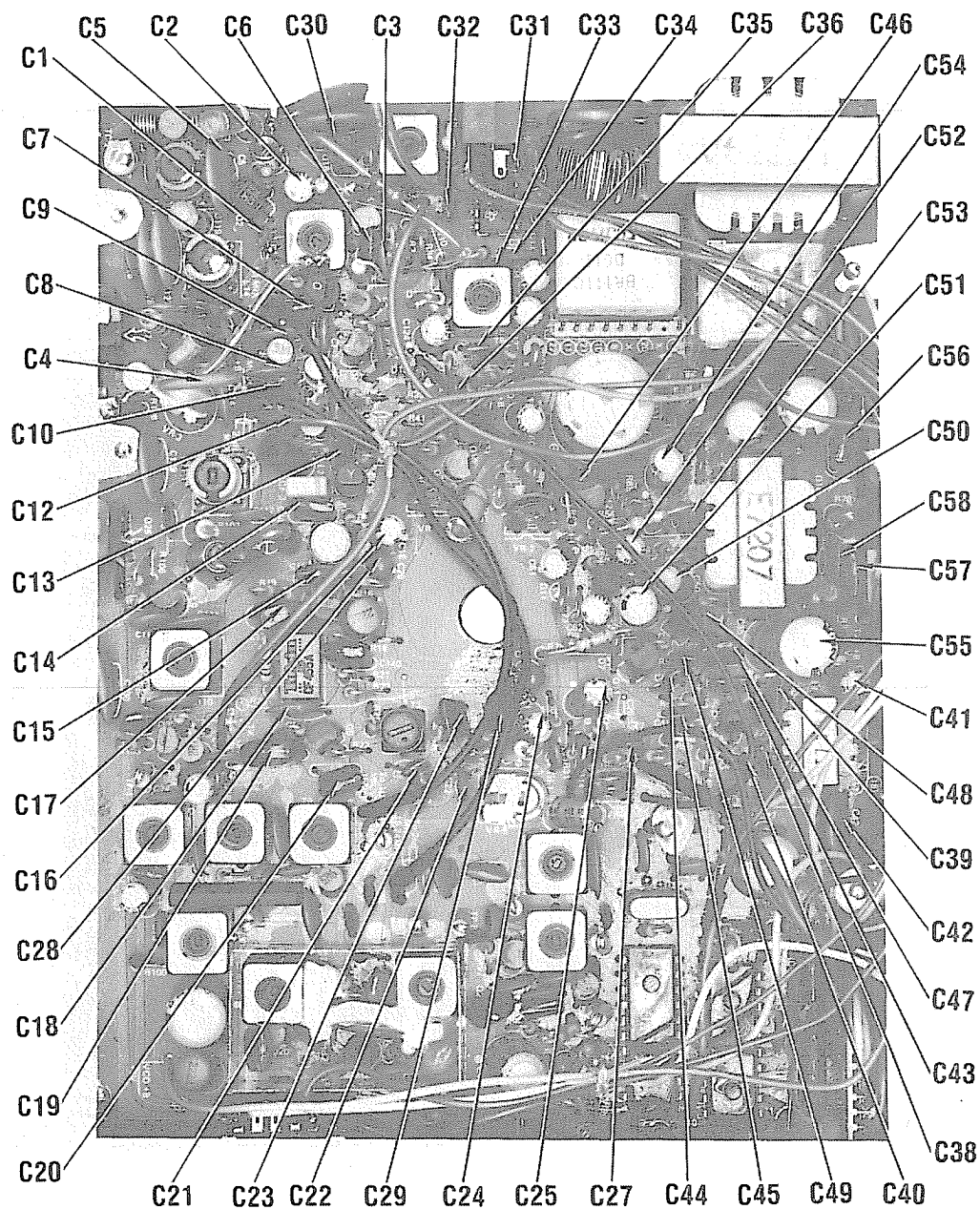
MAIN BOARD

A Howard W. Sams CIRCUITRACE® Photo

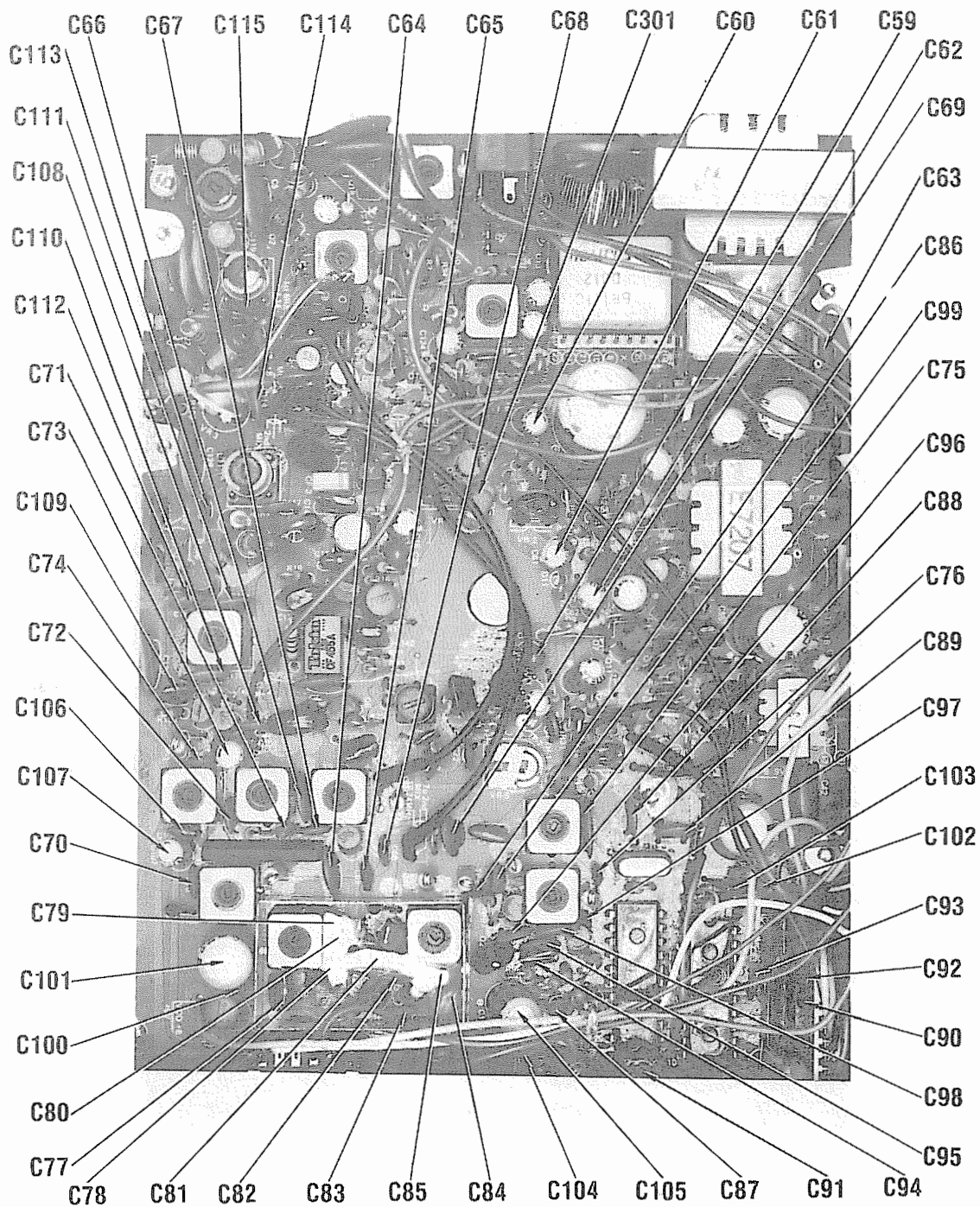


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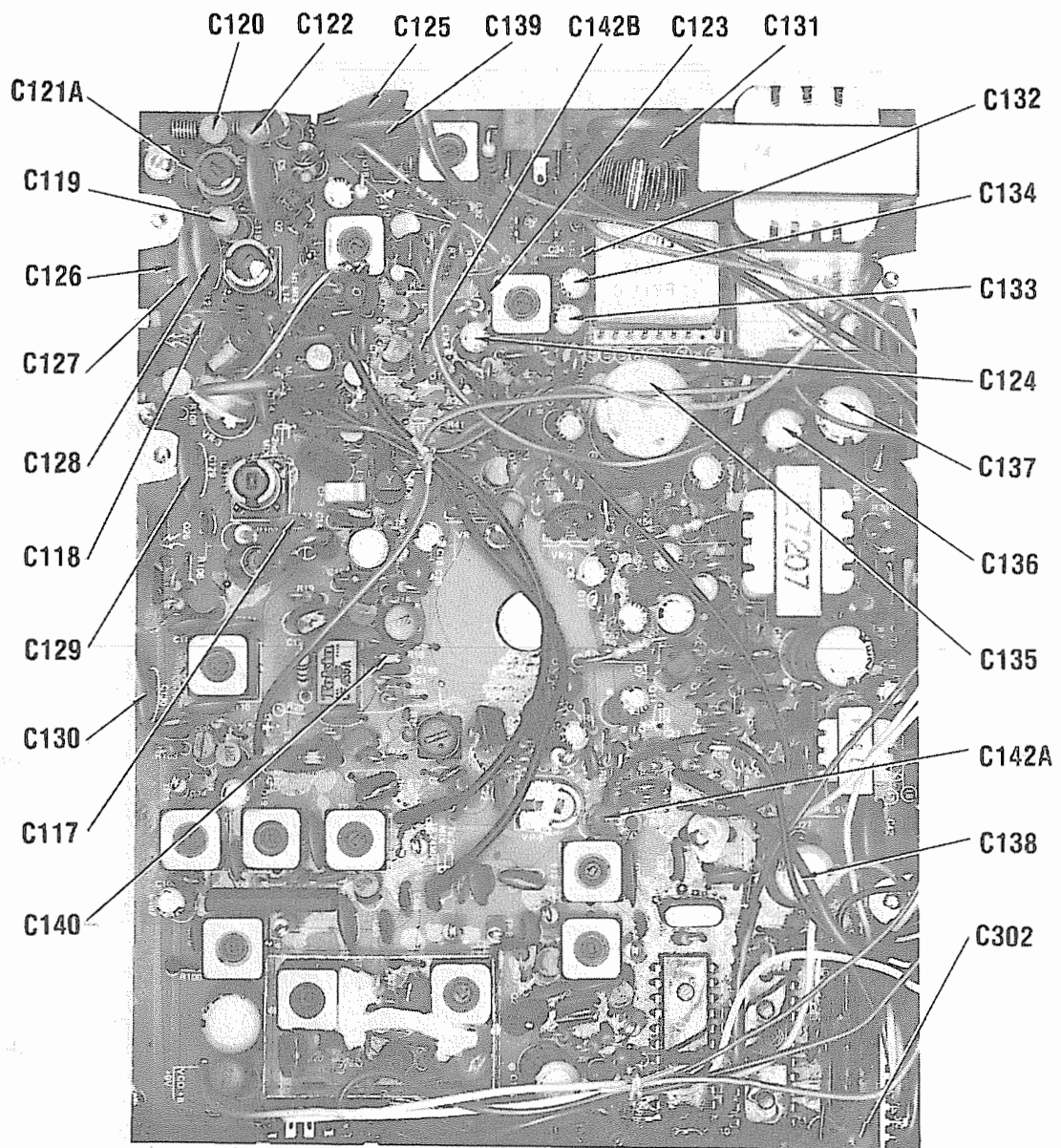




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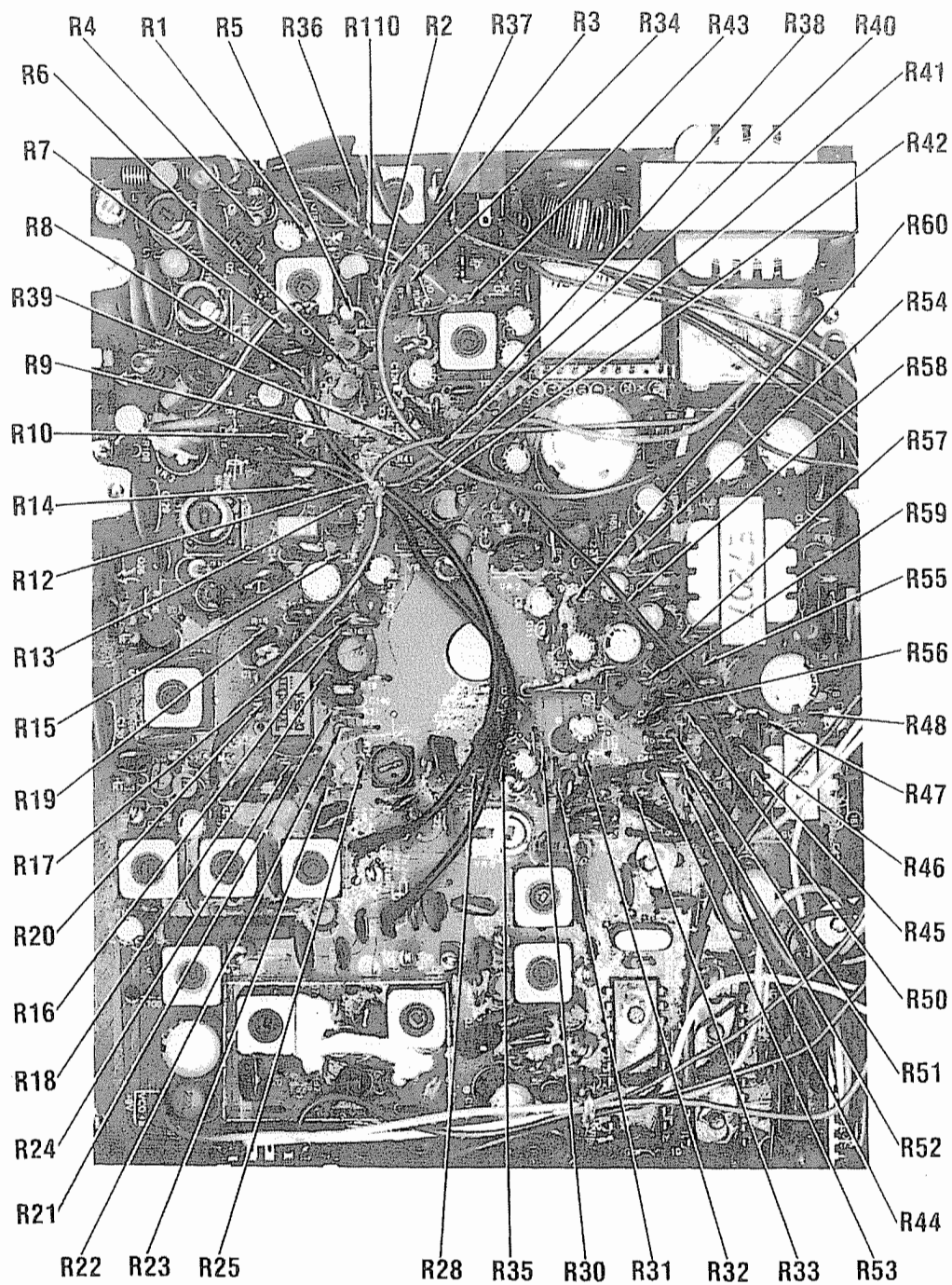


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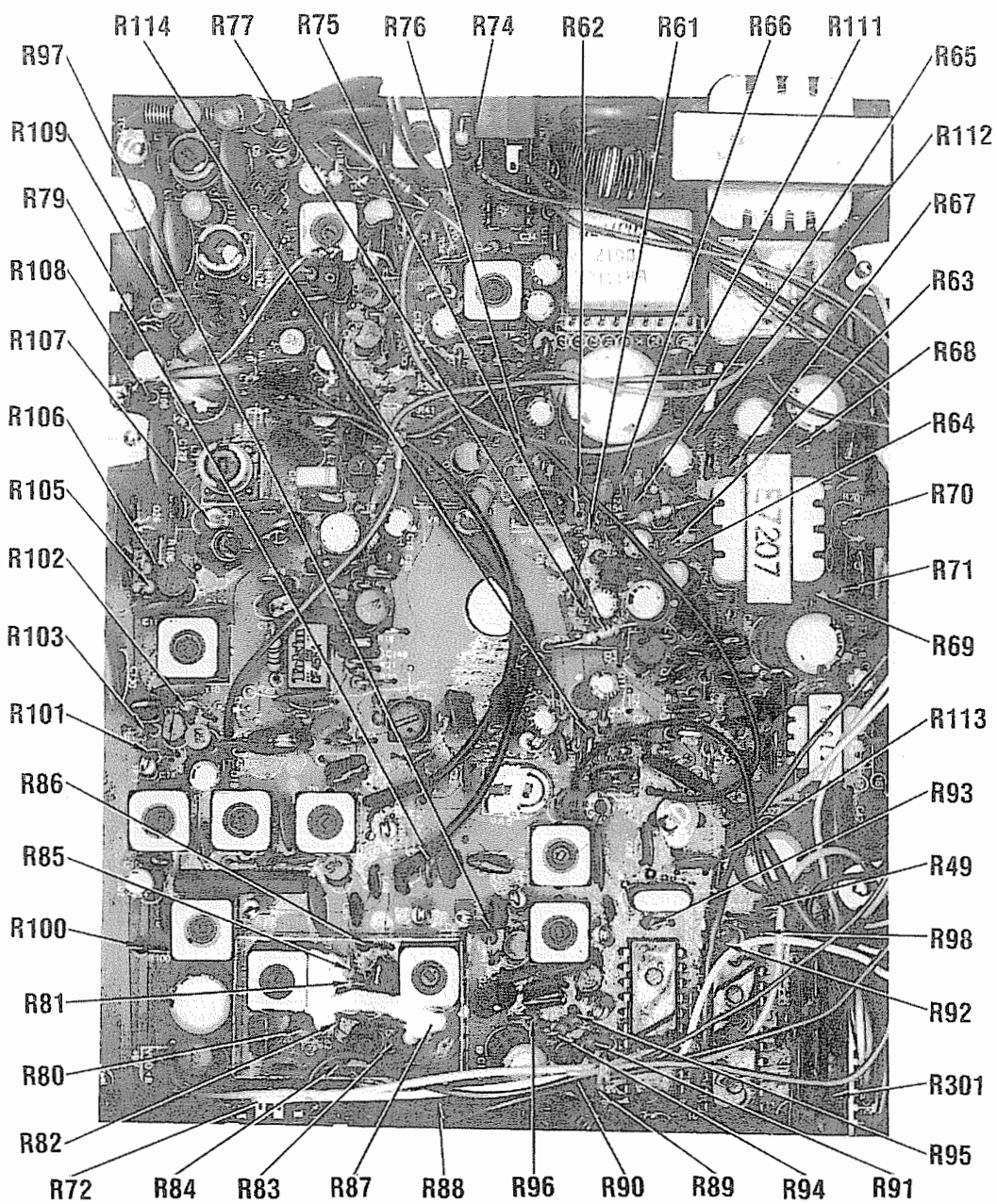


MAIN BOARD

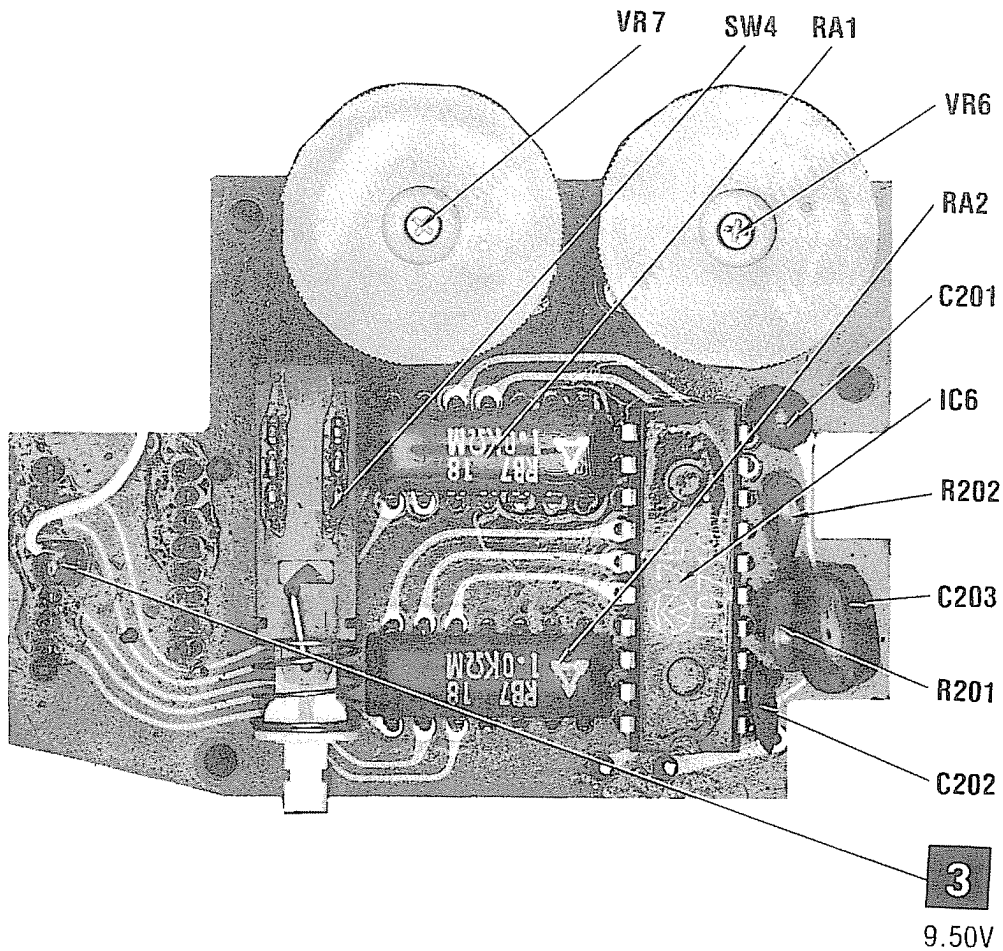
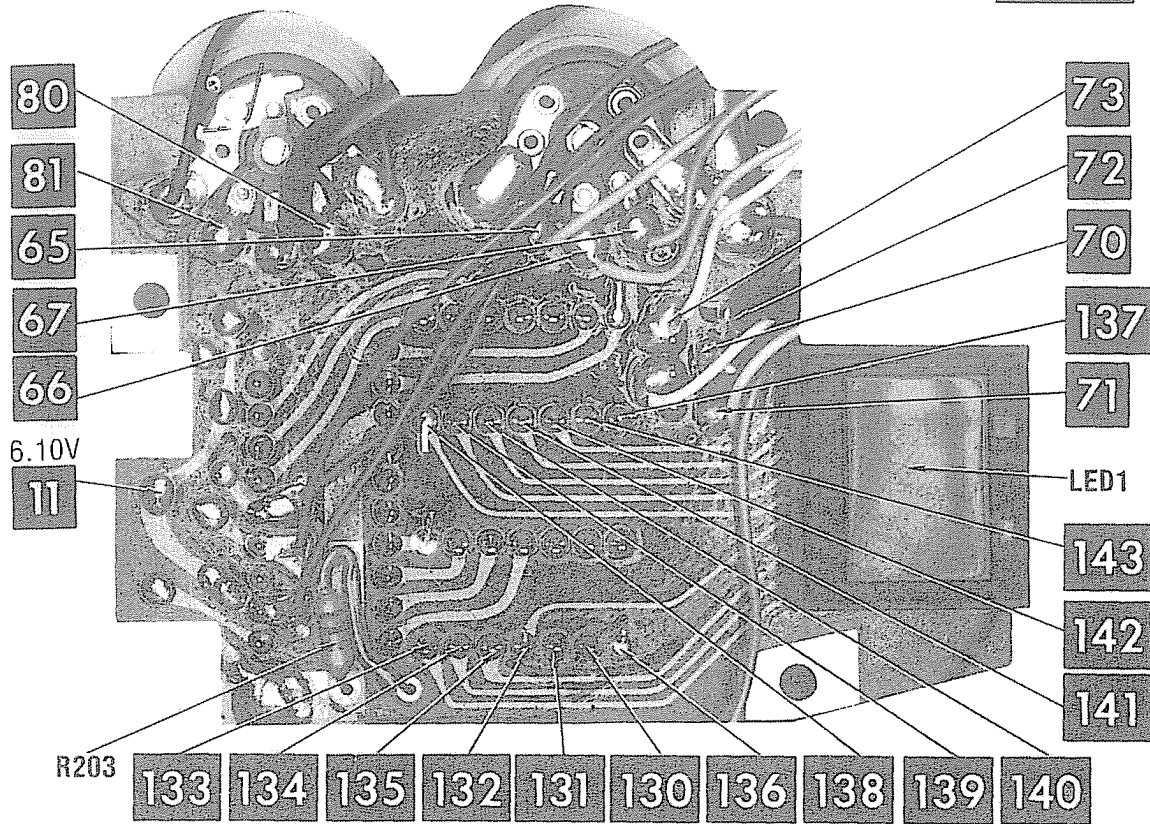




MAIN BOARD

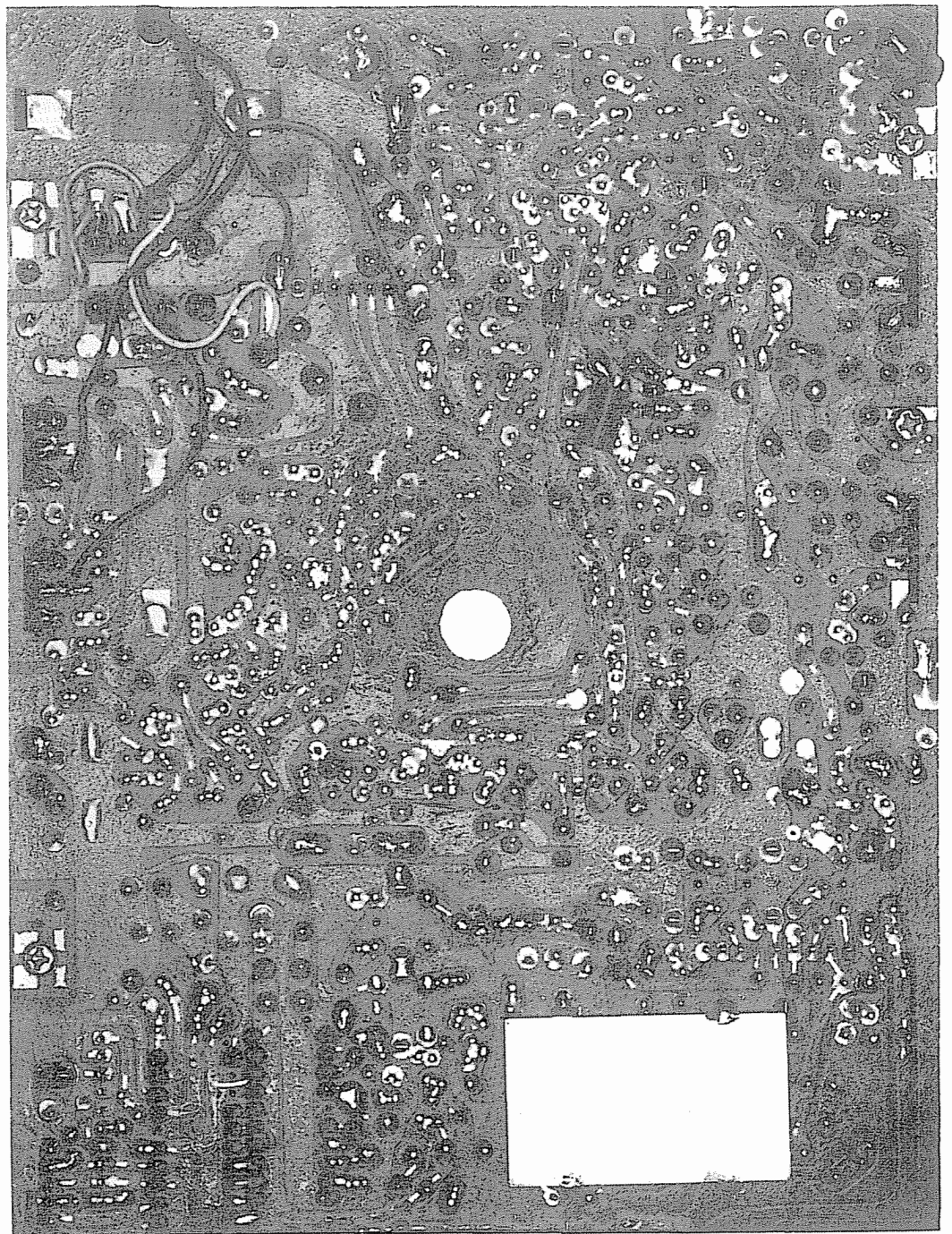


MA IN BOARD

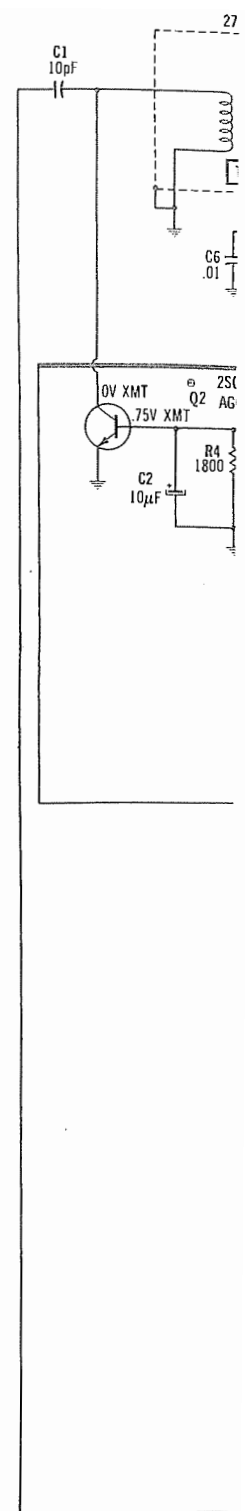
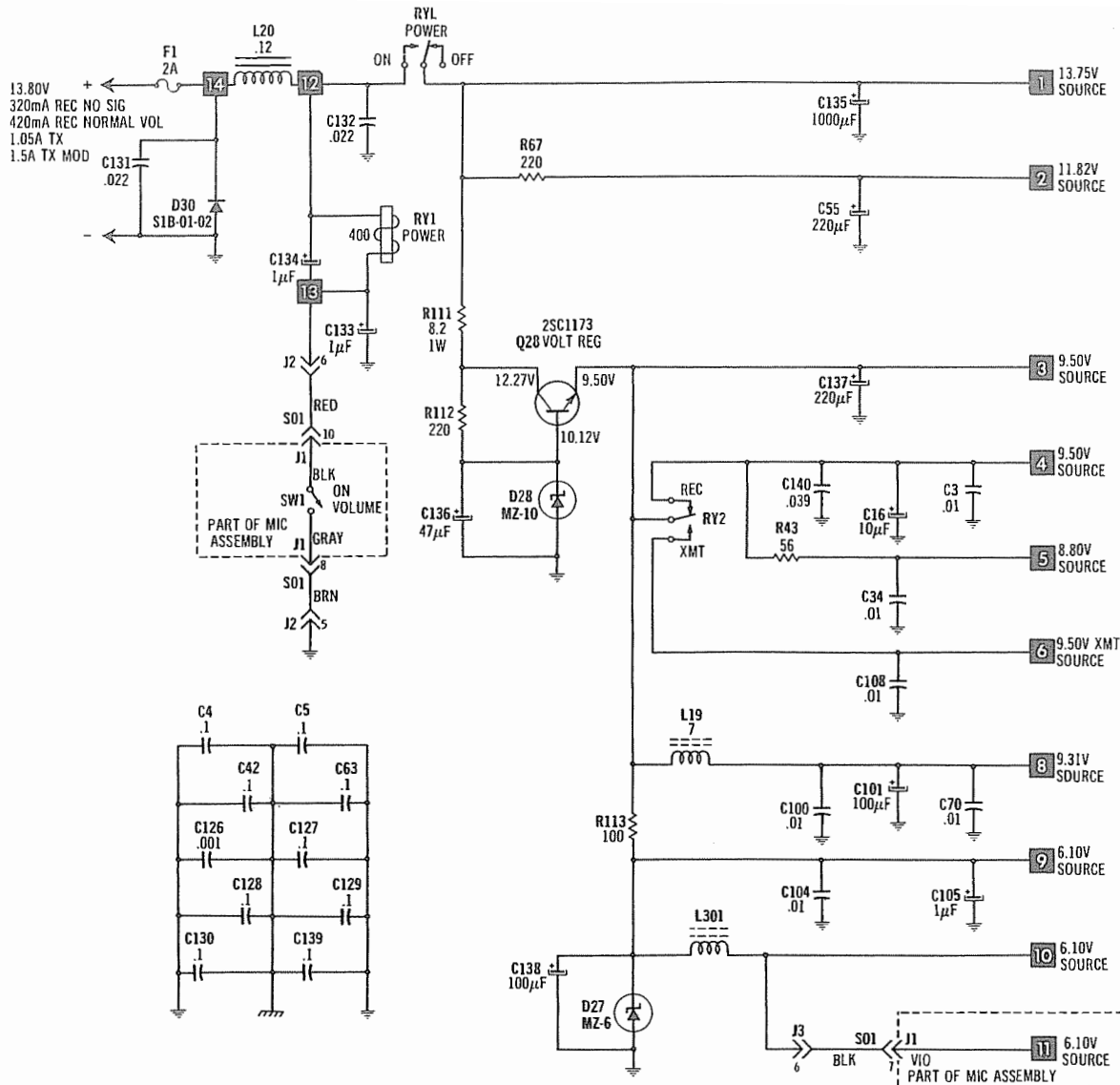


**CONTROL BOARD**





SHIELD LOCATION



#### TERMINAL GUIDES

- X— Circuitry not used in some versions.
- Circuitry used in some versions.
- ⊗ Nominal value
- ⊕ Common tie point
- ⊥ Ground
- ⊥ Signal path
- ⊥ Chassis
- ⊥ Voltage path
- ⊕ See parts list

Waveforms and Voltages taken in Channel 19 with switching in receive unless noted. Item numbers in rectangles appear in the alignment/adjustment instructions. Supply voltage maintained as shown at input. Voltages measured with digital meter, no signal. Controls adjusted for normal operation. Terminal identification may not be found on unit. Resistors are 1/2W or less, 5% unless noted. Value in ( ) used in some versions. Arrow head(s) at coils and transformers indicates accessibility of tuning slug(s).

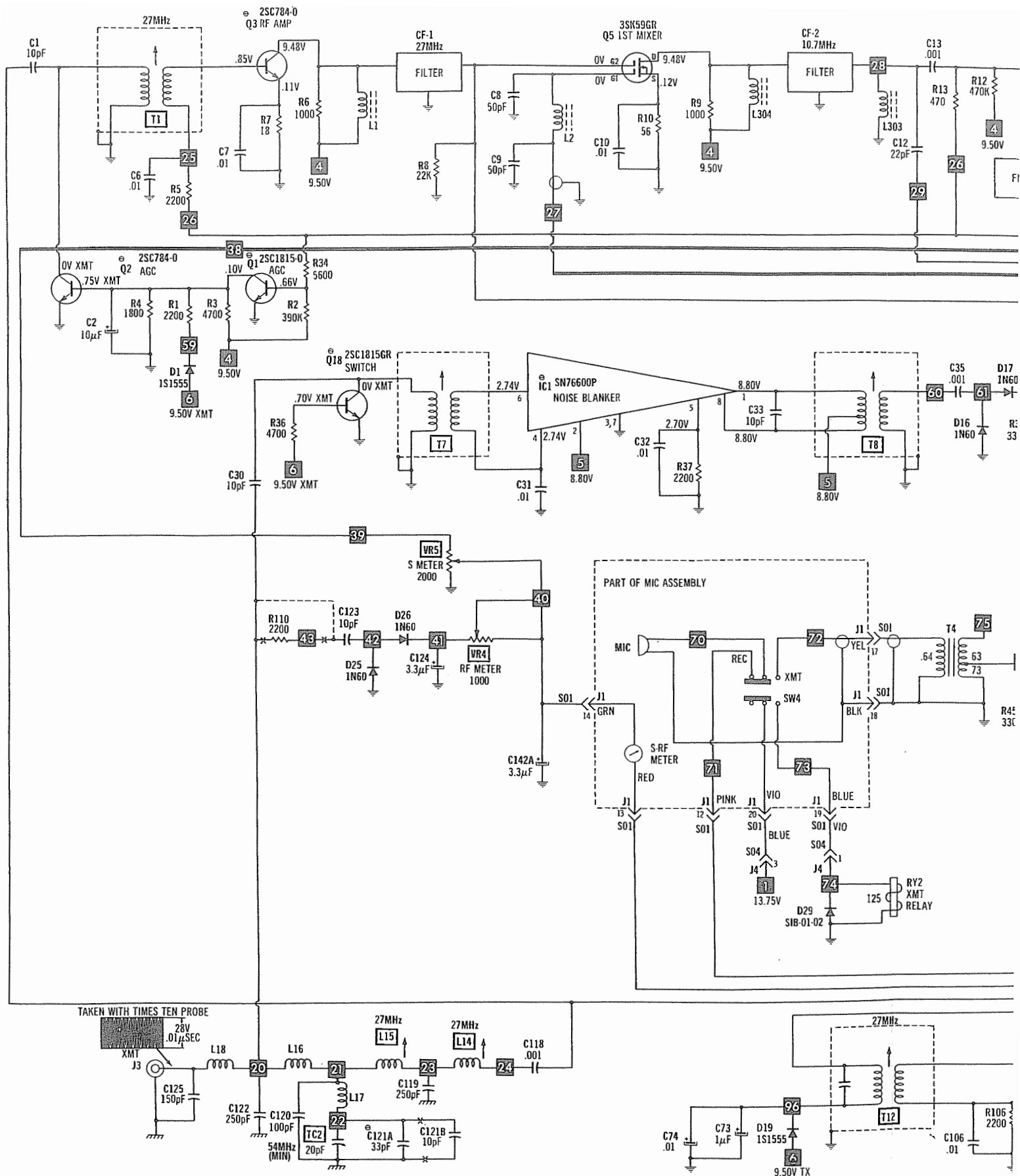
A PHOTOFACT STANDARD NOTATION SCHEMATIC

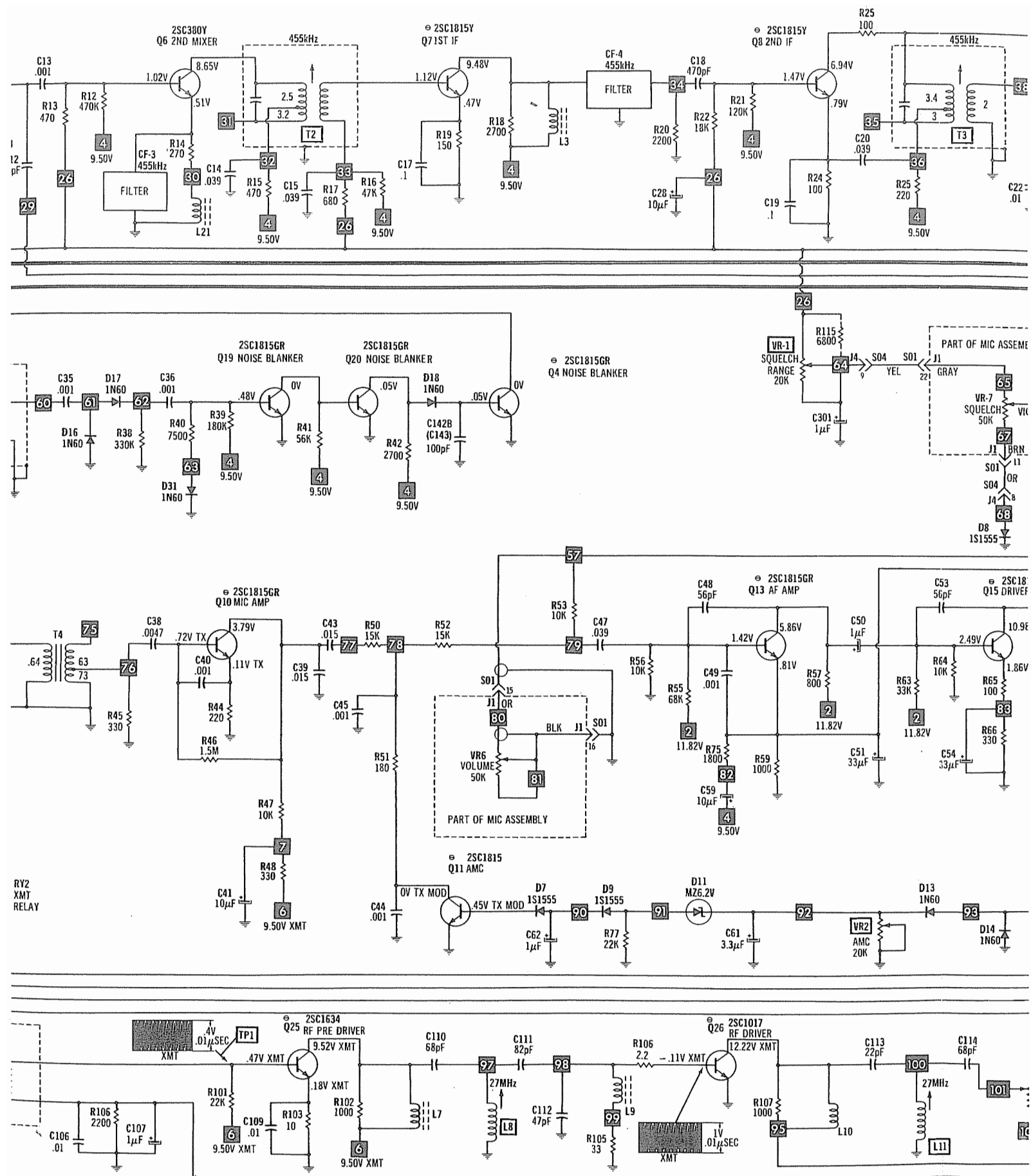
WITH **CIRCUITRACE**

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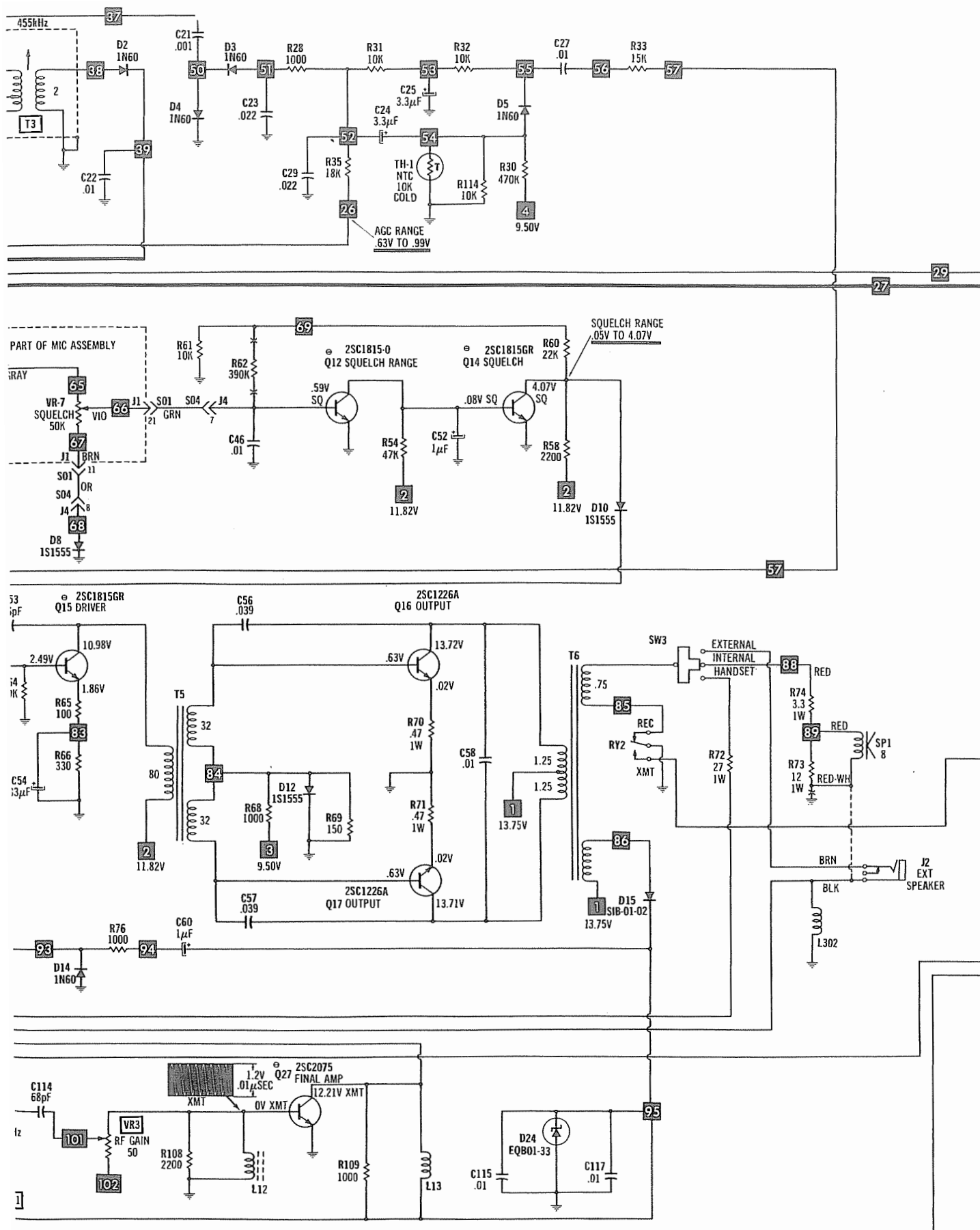
## POWER SUPPLY SCHEMATIC

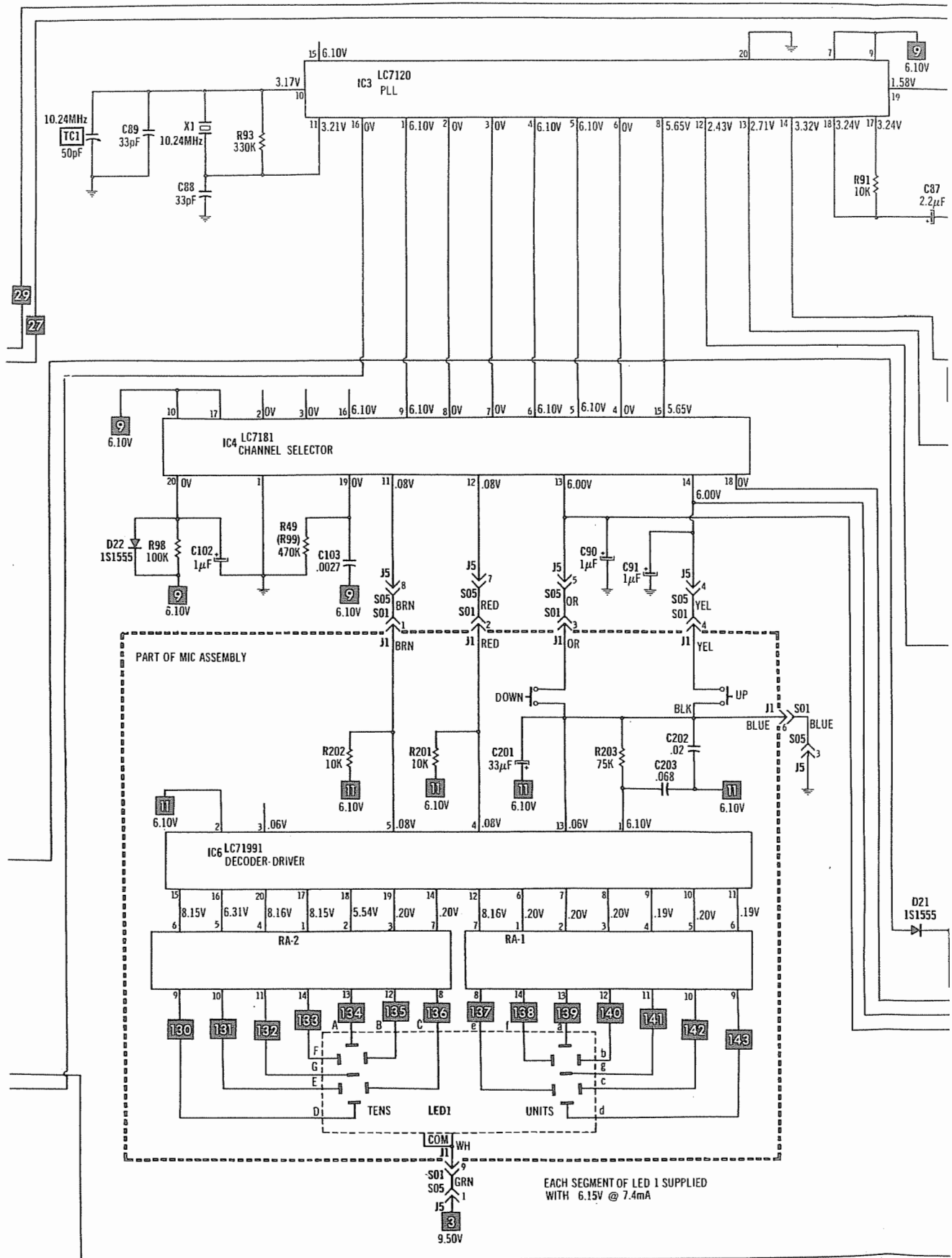




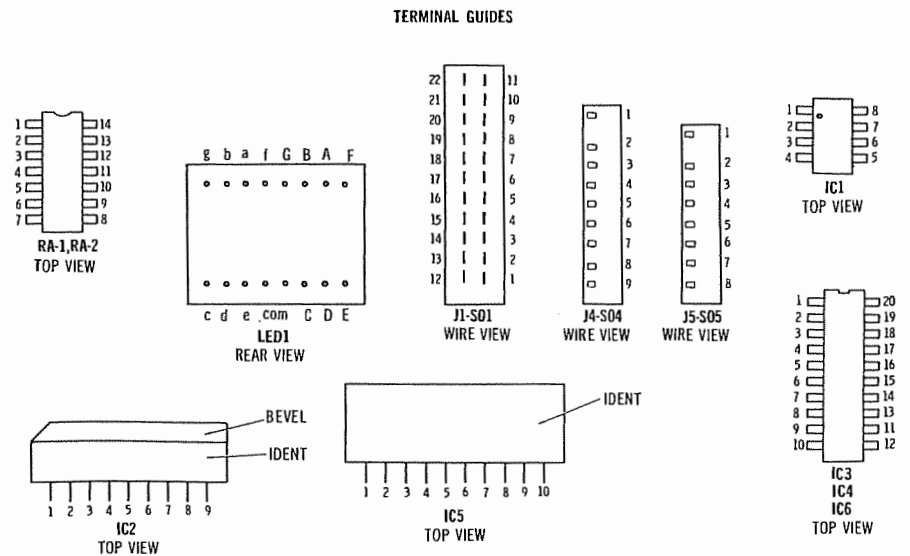
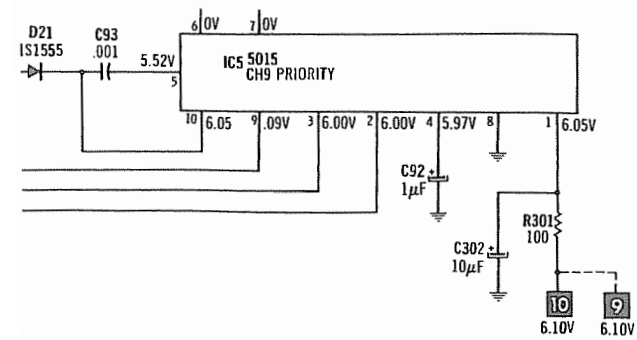
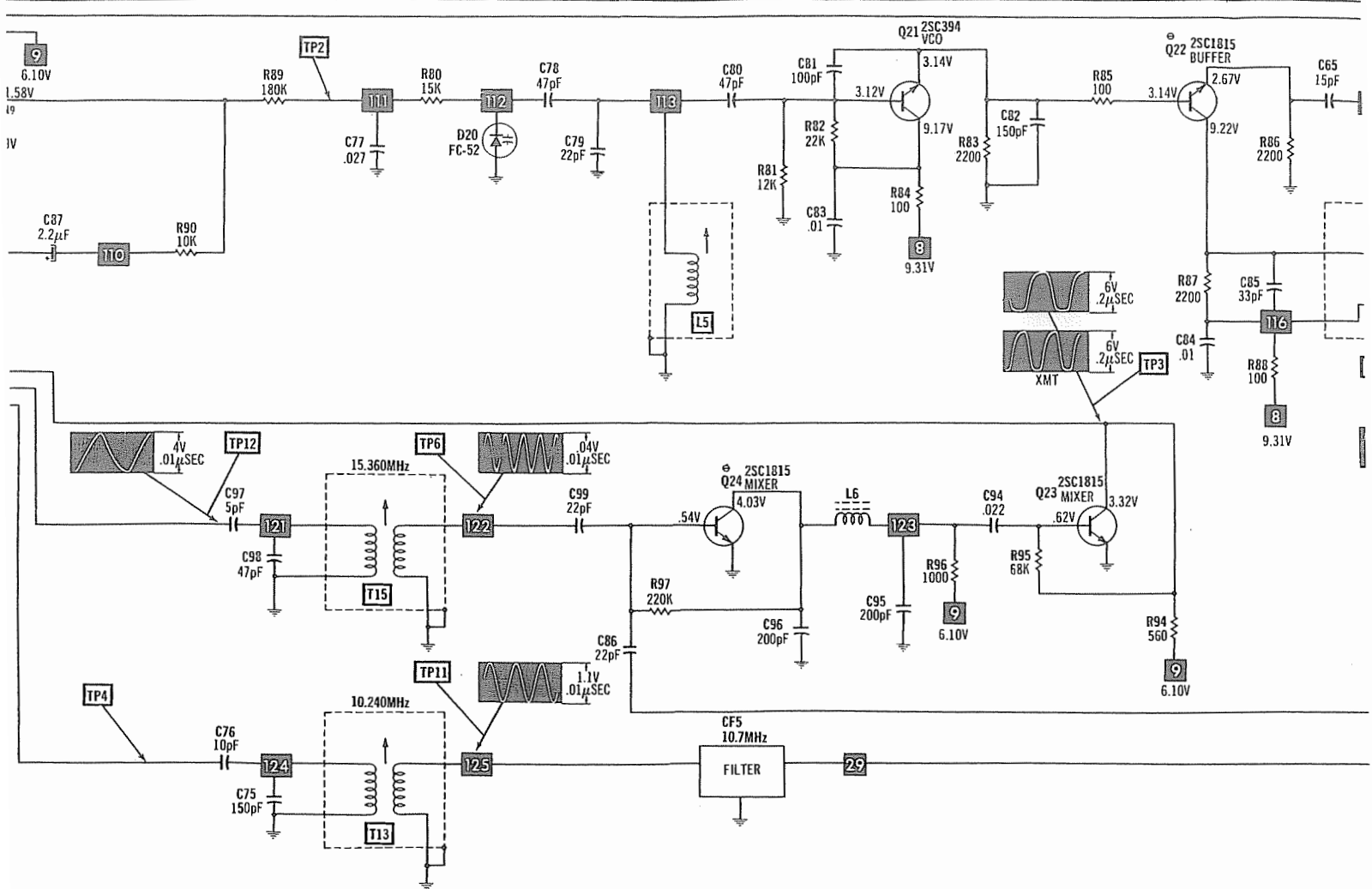


MAIN CB SCHEMATIC

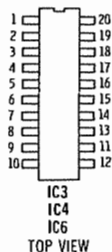








PLL/CHANNEL SELECTOR SCHEMATIC

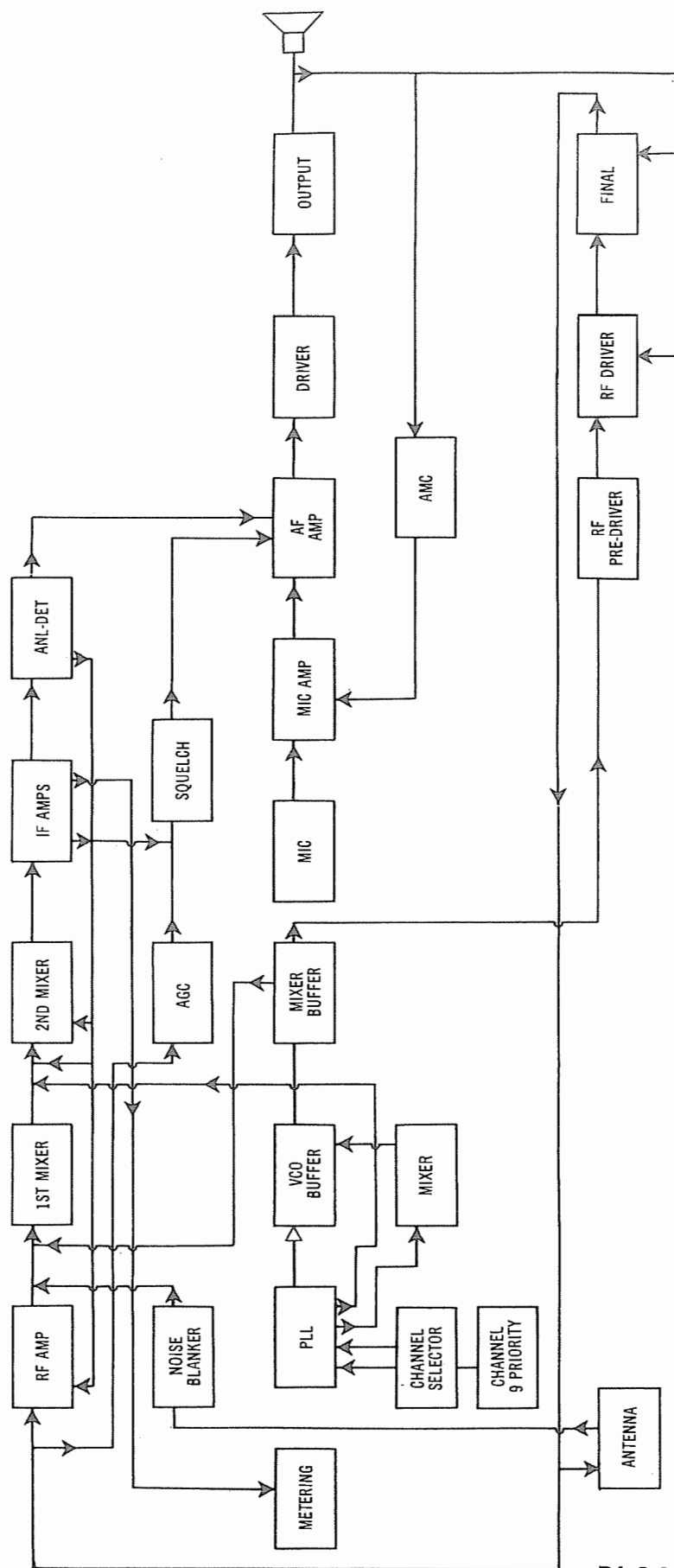


-  Circuitry not used in some versions.  
 Circuitry used in some versions.  
 Nominal value       Common tie point  
 Ground       Signal path  
 Chassis       Voltage path  
 See parts list

Waveforms and Voltages taken in Channel 19 with switching in receive unless noted.  
Item numbers in rectangles appear in the alignment/adjustment instructions.  
Supply voltage maintained as shown at input.  
Voltages measured with digital meter, no signal.  
Controls adjusted for normal operation.  
Terminal identification may not be found on unit.  
Resistors are 1/2W or less, 5% unless noted.  
Value in ( ) used in some versions.  
Arrow head(s) at coils and transformers indicates accessibility of tuning slug(s).

WITH **CIRCUITRACE<sup>®</sup>**

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# PARTS LIST AND DESCRIPTION

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

## SEMICONDUCTORS (Select replacement transistor for best results)

| ITEM No. | TYPE No.  | MFR. PART No. | REPLACEMENT DATA          |                  |                   |              |                   |                     |                  |                 |
|----------|-----------|---------------|---------------------------|------------------|-------------------|--------------|-------------------|---------------------|------------------|-----------------|
|          |           |               | GENERAL ELECTRIC PART No. | MALLORY PART No. | RAYTHEON PART No. | RCA PART No. | SYLVANIA PART No. | THORDARSON PART No. | WORKMAN PART No. | ZENITH PART No. |
| D1       | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D2       | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D3       | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D4       | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D5       | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D7       | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D8       | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D9       | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D10      | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D11      | MZ-6      | DX-0716       | GEZD-6.2                  | ZB6.2B           | REN 137           | SK3058       | ECG137A           | TM137/**            | WEP1154          | 103-Z9008       |
| D12      | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D13      | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D14      | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D15      | S1B-01-02 | DX-0445       | GE-504A                   | PTC201           | REN 116           | SK3311       | ECG116            | TM116               | WEP156           | 212-76-02       |
| D16      | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D17      | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D18      | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D19      | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D20      | FC-52     |               |                           |                  |                   |              |                   |                     |                  |                 |
|          | FC-52H    |               |                           |                  |                   |              |                   |                     |                  |                 |
| D21      | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D22      | 1S1555    | DX-0270       | GE-300                    | PTC214           | REN 177           | SK3100       | ECG177            | TM177               | WEP1062          | 103-131         |
| D24      | EQ801-33  | DX-0121       | GEZD-33                   | ZB33B            | REN 147           | SK3095       | ECG147A           | TM147/**            | WEP1122          | 103-Z9004       |
| D25      | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D26      | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| D27      | MZ-6      | DX-0716       | GEZD-6.2                  | ZB6.2B           | REN 137           | SK3058       | ECG137A           | TM137/**            | WEP1154          | 103-Z9008       |
| D28      | MZ-10     | DX-0716       | GEZD-10                   | ZB10B            | REN 140           | SK3061       | ECG140A           | TM140/**            | WEP1110          | 103-Z9010       |
| D29      | S1B-01-02 | DX-0445       | GE-504A                   | PTC201           | REN 116           | SK3311       | ECG116            | TM116               | WEP156           | 212-76-02       |
| D30      | S1B-01-02 | DX-0445       | GE-504A                   | PTC201           | REN 116           | SK3311       | ECG116            | TM116               | WEP156           | 212-76-02       |
| D31      | 1N60      | DX-0161       | 1N60                      | PTC206           | REN 109           | SK3088       | ECG109            | TM109/**            | WEP134           | 103-Z9001       |
| IC1      | 5N76600P  |               | GE1C-217                  |                  |                   | SK3234       | ECG746            | TM746               | WEP2024          | 221-Z9028       |
|          | 76600P    |               | GE1C-217                  |                  |                   | SK3234       | ECG746            | TM746               | WEP2024          | 221-Z9028       |
| IC2      | TA7310P   |               |                           |                  | REN 1192          | SK3445       | ECG1192           |                     |                  |                 |
| IC3      | LC7120    |               |                           |                  |                   |              |                   |                     |                  |                 |
| IC4      | LC7181    |               |                           |                  |                   |              |                   |                     |                  |                 |
| IC5      | 5015      |               |                           |                  |                   |              |                   |                     |                  |                 |
|          | KH5015    |               |                           |                  |                   |              |                   |                     |                  |                 |
| IC6      | LC7191    |               |                           |                  |                   |              |                   |                     |                  |                 |
| Q1       | 2SC1815-0 |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC372-0  |               | GE-61*                    | PTC121*          | REN 123A*         | SK3245       | ECG123A*          | TM123A/**           | WEP372           | 121-Z9000A*     |
| Q2       | 2SC784-0  |               | GE-60*                    | PTC132*          | REN 229*          | SK3246*      | ECG229*           | TM229/**            | WEP784           | 121-Z9021       |
|          | 2SC1923-0 |               | GE-61                     | PTC132           | REN 229           | SK3018       | ECG229            | TM229/**            | WEP784           | 121-Z9021       |
| Q3       | 2SC784-0  |               | GE-60*                    | PTC132*          | REN 229*          | SK3246*      | ECG229*           | TM229/**            | WEP784           | 121-Z9021       |
|          | 2SC1923-0 |               | GE-61                     | PTC132           | REN 229           | SK3018       | ECG229            | TM229               | WEP784           | 121-Z9000A*     |
| Q4       | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q5       | 3SK596R   |               | GE-FET-4                  | PTC182           | REN 222           | SK3065       | ECG222            | TM222               | WEP905           | 121-826         |
| Q6       | 2SC380Y   |               | GE-61*                    | PTC136*          | REN 107           | SK3018*      | ECG107            | TM107               | WEP380           | 121-Z9001*      |
| Q7       | 2SC1815Y  |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC372Y   |               | GE-61*                    | PTC121*          | REN 123A*         | SK3245       | ECG123A*          | TM123A/**           | WEP372           | 121-Z9000A*     |
| Q8       | 2SC1815Y  |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC372Y   |               | GE-61*                    | PTC121*          | REN 123A*         | SK3245       | ECG123A*          | TM123A/**           | WEP372           | 121-Z9000A*     |
| Q10      | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q11      | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q12      | 2SC1815-0 |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC372-0  |               | GE-61*                    | PTC121*          | REN 123A*         | SK3245       | ECG123A*          | TM123A/**           | WEP372           | 121-Z9000A*     |
|          | 2SC372    |               | GE-61*                    | PTC121*          | REN 123A*         | SK3245       | ECG123A*          | TM123A/**           | WEP372           | 121-Z9000A*     |
| Q13      | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q14      | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q15      | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q16      | 2SC1226A  |               | GE-215                    | PTC186           | REN 186A          | SK3357       | ECG186A           | TM186A/**           | WEP751           | 121-Z9008       |
| Q17      | 2SC1226A  |               | GE-215                    | PTC186           | REN 186A          | SK3357       | ECG186A           | TM186A/**           | WEP751           | 121-Z9008       |
| Q18      | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q19      | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q20      | 2SC1815GR |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC373    |               | GE-212                    | PTC121*          | REN 199           | SK3122       | ECG199            | TM199/**            | WEP373           | 121-972         |
| Q21      | 2SC394Y   |               | GE-61*                    | PTC121*          | REN 229*          | SK3124       | ECG229*           | TM229*              | WEP394           | 121-Z9021       |
| Q22      | 2SC1815Y  |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC372Y   |               | GE-61*                    | PTC121*          | REN 123A*         | SK3245       | ECG123A*          | TM123A/**           | WEP372           | 121-Z9000A*     |
| Q23      | 2SC1815Y  |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC372Y   |               | GE-61*                    | PTC121*          | REN 123A*         | SK3245       | ECG123A*          | TM123A/**           | WEP372           | 121-Z9000A*     |
| Q24      | 2SC1815Y  |               | GE-62                     | PTC136           | REN 199           | SK3245       | ECG199            | TM199               | WEP66            | 121-Z9000       |
|          | 2SC372Y   |               | GE-61*                    | PTC121*          | REN 123A*         | SK3245       | ECG123A*          | TM123A/**           | WEP372           | 121-Z9000A*     |
| Q25      | 2SC1634   |               | GE-20*                    | PTC123*          | REN 123A*         | SK3124       | ECG123A*          | TM123A/**           | WEP66            | 121-Z9000A*     |
|          | 2SC1346   |               | GE-63*                    | PTC178           | REN 192*          | SK3020*      | REN 192*          | TM192*              | WEP912           | 121-Z9014       |
| Q26      | 2SC1017   |               | GE-236                    | PTC192           | REN 299           | SK3298       | ECG299            | TM299               | WEP1018          |                 |
|          | 2SC1018   |               | GE-236                    | PTC192           | REN 299           | SK3298       | ECG299            | TM299/**            | WEP1018          |                 |
| Q27      | 2SC2075   |               | GE-215                    | PTC186           | REN 235           | SK3197       | ECG235            | TM235               | WEP785           | 121-Z9039       |
|          | 2SC1678   |               | GE-322                    | PTC186           | REN 235           | SK3197       | ECG235            | TM235               | WEP840           | 121-Z9039       |
| Q28      | 2SC1173   |               | GE-215                    | PTC110           | REN 236           | SK3197       | ECG236            | TM236/**            | WEP745           | 121-Z9040       |

\* Lead configuration may vary from original.  
/\*\* Also available as exact type replacement.

REALISTIC MODEL TRC-462

# PARTS LIST AND DESCRIPTION (CONTINUED)

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

## ELECTROLYTIC CAPACITORS

| ITEM No. | RATING   | REPLACEMENT DATA |                           |                  |                  |              |
|----------|----------|------------------|---------------------------|------------------|------------------|--------------|
|          |          | MFR. PART No.    | CORNELL-DUBILIER PART No. | MALLORY PART No. | SPRAGUE PART No. |              |
|          |          |                  |                           |                  | Q-LINE           | GENERAL LINE |
| C2       | 10 16V   |                  | PC10-25                   | VTT10B25         | QV1-41           | EV-1222      |
| C16      | 10 16V   |                  | PC10-25                   | VTT10B25         | QV1-41           | EV-1222      |
| C24      | 3.3 50V  |                  | PC5-50                    | VTT3R3A50        | QV1-25           | EV-1618.1    |
| C25      | 3.3 50V  |                  | PC5-50                    | VTT3R3A50        | QV1-25           | EV-1618.1    |
| C28      | 10 16V   |                  |                           | TUC106M025FL     | QDT1-64          | S025-109     |
| C41      | 10 16V   |                  | PC10-25                   | VTT10B25         | QV1-41           | EV-1222      |
| C50      | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C51      | 33 16V   |                  | PC30-25                   | VTT33025         | QV1-63           | EV-1325      |
| C52      | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C54      | 33 16V   |                  | PC30-25                   | VTT33025         | QV1-63           | EV-1325      |
| C55      | 220 16V  |                  | PC250-25                  | VTT220H16        | QV1-117          | EV-1240      |
| C59      | 10 16V   |                  |                           | TUC106M025FL     | QDT1-64          | S025-109     |
| C60      | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C61      | 3.3 50V  |                  | PC5-50                    | VTT3R3A50        | QV1-25           | EV-1618.1    |
| C62      | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C73      | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C87      | 2.2 16V  |                  |                           | TUC225M035FL     |                  | S035-2R29    |
| C90      | 1 25V    |                  |                           | TUC105M035EL     |                  | S035-19      |
| C91      | 1 25V    |                  |                           | TUC105M035EL     |                  | S035-19      |
| C92      | 1 25V    |                  |                           | TUC105M035EL     |                  | S035-19      |
| C101     | 100 16V  |                  | PC100-16                  | VTT100F16        | QV1-95           | EV-1231      |
| C102     | 1 25V    |                  |                           | TUC105M035EL     |                  | S035-19      |
| C105     | 100 10V  |                  | PC100-10                  | VTT100E10        | QV1-93           | EV-1131      |
| C107     | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C124     | 3.3 50V  |                  | PC5-50                    | VTT3R3A50        | QV1-25           | EV-1618.1    |
| C133     | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C134     | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C135     | 1000 16V |                  | PC1000-16                 | VTT1000L16       | QV1-183          | EV-1261      |
| C136     | 47 16V   |                  | PC50-16                   | VTT47016         | QV1-73           | EV-1226      |
| C137     | 220 16V  |                  | PC250-25                  | VTT220H16        | QV1-117          | EV-1240      |
| C138     | 100 16V  |                  | PC100-16                  | VTT100F16        | QV1-95           | EV-1231      |
| C142A    | 3.3 50V  |                  | PC5-50                    | VTT3R3A50        | QV1-25           | EV-1618.1    |
| C201     | 33 6.3V  |                  |                           | TUC336M010FL     | QDT1-89          | S010-339     |
| C301     | 1 50V    |                  | PC1-50                    | VTT1A50          | QV1-11           | EV-1615      |
| C302     | 10 16V   |                  | PC10-25                   | VTT10B25         | QV1-41           | EV-1222      |

## CAPACITORS

| ITEM<br>No. | RATING                      | MFR.<br>PART No. | REPLACEMENT DATA      |                                  |                     |                  |              |
|-------------|-----------------------------|------------------|-----------------------|----------------------------------|---------------------|------------------|--------------|
|             |                             |                  | CENTRALAB<br>PART No. | CORNELL-<br>DUBILIER<br>PART No. | MALLORY<br>PART No. | SPRAGUE PART No. |              |
|             |                             |                  |                       |                                  |                     | Q-LINE           | GENERAL LINE |
| C1          | 10 NPO 50V $\pm 10\%$       |                  | DTZ-10                | HP010                            | CN0410              |                  | 10TCC-Q10    |
| C3          | .01 25V                     |                  | UK25-103              |                                  | MAG2511             |                  | HY-520       |
| C4          | .1 25V                      |                  | UK25-104              |                                  | MAG2501             |                  | HY-750       |
| C5          | .1 25V                      |                  | UK25-104              |                                  | MAG2501             |                  | HY-750       |
| C6          | .01 50V 10%                 |                  |                       | WMF1S1                           | EWFA1110            | QFT2-91          | 1FT-S10      |
| C7          | .01 50V                     |                  |                       | WMF1S1                           | EWFA1110            | QFT2-91          | 1FT-S10      |
| C8          | 50 NPO 50V 10%              |                  | DTZ-50                | NP050                            | CN0450              |                  | 10TCC-Q50    |
| C9          | 50 NPO 50V 10%              |                  | DTZ-50                | NP050                            | CN0450              |                  | 10TCC-Q50    |
| C10         | .01 50V 10%                 |                  |                       | WMF1S1                           | EWFA1110            | QFT2-91          | 1FT-S10      |
| C12         | 22 NPO 50V 10%              |                  | DTZ-22                | HP022                            | CN0422              |                  | 10TCC-Q22    |
| C13         | .001 50V 10%                |                  |                       | DPMS601                          | EWFA1210            | QFT2-1           | 1FT-D10      |
| C14         | .039 50V 10%                |                  |                       | DPMS6S39                         | M192P3939R8         | QFT2-159         | 1FT-S39      |
| C15         | .039 50V 10%                |                  |                       | DPMS6S39                         | M192P3939R8         | QFT2-159         | 1FT-S39      |
| C17         | .1 50V 10%                  |                  |                       | WMF0SP1                          | EWFO5010            | QFT2-215         | 1FT-P10      |
| C18         | 470 50V                     |                  | 00-471                | GP470                            | GP347               |                  | 10TS-T47     |
| C19         | .1 50V 10%                  |                  |                       | WMF0SP1                          | EWFO5010            | QFT2-215         | 1FT-P10      |
| C20         | .039 50V 10%                |                  |                       | DPMS6S39                         | M192P3939R8         | QFT2-159         | 1FT-S39      |
| C21         | .001 50V 10%                |                  |                       | DPMS601                          | EWFA1210            | QFT2-1           | 1FT-D10      |
| C22         | .01 25V                     |                  | UK25-103              |                                  | MAG2511             |                  | HY-520       |
| C23         | .022 50V 10%                |                  |                       | DPMS2S22                         | M192P2239R8         | QFT2-127         | 1FT-S22      |
| C27         | .01 50V 10%                 |                  |                       | WMF1S1                           | EWFA1110            | QFT2-91          | 1FT-S10      |
| C29         | .022 50V 10%                |                  |                       | DPMS2S22                         | M192P2239R8         | QFT2-127         | 1FT-S22      |
| C30         | 10 NPO 50V 10%              |                  | DTZ-10                | HP010                            | CN0410              |                  | 10TCC-Q10    |
| C31         | .01 25V                     |                  | UK25-103              |                                  | MAG2511             |                  | HY-520       |
| C32         | .01 50V 10%                 |                  |                       | WMF1S1                           | EWFA1110            | QFT2-91          | 1FT-S10      |
| C33         | 10 NPO 50V 10%              |                  | DTZ-10                | HP010                            | CN0410              |                  | 10TCC-Q10    |
| C34         | .01 25V                     |                  | UK25-103              |                                  | MAG2511             |                  | HY-520       |
| C35         | .001 50V 10%                |                  |                       | DPMS601                          | EWFA1210            | QFT2-1           | 1FT-D10      |
| C36         | .001 50V 10%                |                  |                       | DPMS601                          | EWFA1210            | QFT2-1           | 1FT-D10      |
| C38         | .0047 50V 10%               |                  |                       | WMFT047                          | M192P4729R8         | QFT2-63          | 1FT-D47      |
| C39         | .015 50V 10%                |                  |                       | WMF1S15                          | M192P1539R8         | QFT2-105         | 1FT-S15      |
| C40         | .001 50V 10%                |                  |                       | DPMS601                          | EWFA1210            | QFT2-1           | 1FT-D10      |
| C42         | .1 25V                      |                  | UK25-104              |                                  | MAG2501             |                  | HY-750       |
| C43         | .015 50V 10%                |                  |                       | WMF1S15                          | M192P1539R8         | QFT2-105         | 1FT-S15      |
| C44         | .001 50V 10%                |                  |                       | DPMS601                          | EWFA1210            | QFT2-1           | 1FT-D10      |
| C45         | .001 50V 10%                |                  |                       | DPMS601                          | EWFA1210            | QFT2-1           | 1FT-D10      |
| C46         | .01 25V                     |                  | UK25-103              |                                  | MAG2511             |                  | HY-520       |
| C47         | .039 50V 10%                |                  |                       | DPMS6S39                         | M192P3939R8         | QFT2-159         | 1FT-S39      |
| C48         | 56 50V                      |                  | 00-560                |                                  | GP456               |                  | 10TS-Q56     |
| C49         | .001 50V 10%                |                  |                       | DPMS601                          | EWFA1210            | QFT2-1           | 1FT-D10      |
| C53         | 56 50V                      |                  | 00-560                |                                  | GP456               |                  | 10TS-Q56     |
| C56         | .039 50V 10%                |                  |                       | DPMS6S39                         | M192P3939R8         | QFT2-159         | 1FT-S39      |
| C57         | .039 50V 10%                |                  |                       | DPMS6S39                         | M192P3939R8         | QFT2-159         | 1FT-S39      |
| C58         | .01 50V 10%                 |                  |                       | WMF1S1                           | EWFA1110            | QFT2-91          | 1FT-S10      |
| C63         | .1 25V                      |                  | UK25-104              |                                  | MAG2501             |                  | HY-750       |
| C64         | 56 NPO 50V 10%              |                  |                       |                                  | CN0456              |                  | 10TCC-Q56    |
| C65         | 15 NPO 50V 10%              |                  | 0T2-15                | HP015                            | CN0415              |                  | 10TCC-Q15    |
| C66         | 120 50V 10%                 |                  |                       |                                  | GP312               |                  |              |
| C67         | .01 25V                     |                  | UK25-103              |                                  | MAG2511             |                  | HY-520       |
| C68         | 15 NPO 10%                  |                  | 0T2-15                | HP015                            | CN0415              |                  | 10TCC-Q15    |
| C69         | 39 NPO 50V 10%              |                  |                       |                                  | CN0439              |                  | 10TCC-Q39    |
| C70         | .01 25V                     |                  | UK25-103              |                                  | MAG2511             |                  | HY-520       |
| C71         | 2 NPO 50V $\pm 25\text{pF}$ |                  |                       |                                  | CN0522              |                  |              |
| C72         | .01 25V                     |                  | UK25-103              |                                  | MAG2511             |                  | HY-520       |



# PARTS LIST AND DESCRIPTION (CONTINUED)

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

## CAPACITORS (cont)

| ITEM No. | RATING           | MFR. PART No. | REPLACEMENT DATA   |                           |                  |                  |              |
|----------|------------------|---------------|--------------------|---------------------------|------------------|------------------|--------------|
|          |                  |               | CENTRALAB PART No. | CORNELL-DUBILIER PART No. | MALLORY PART No. | SPRAGUE PART No. |              |
|          |                  |               |                    |                           |                  | Q-LINE           | GENERAL LINE |
| C74      | .01 25V          |               | UK25-103           |                           | MAG2511          |                  | HY-520       |
| C75      | 150 H220 50V 10% |               |                    |                           | *                |                  | 10TCR-T15    |
| C76      | 10 NPO 50V 10%   |               | 0T2-10             | NP010                     | CN0410           |                  | 10TCC-Q10    |
| C77      | .027 50V 10%     |               |                    | DPMS6527                  | H192P2739RB      | QFT2-139         | 1FT-S27      |
| C78      | 47 50V 10%       |               |                    | GP47                      | GP447            | QC2-31           | 5GA-Q47      |
| C79      | 22 H750 50V ±10% |               |                    |                           | *                |                  | 10TCU-Q22    |
| C80      | 47 50V ±10%      |               |                    | GP47                      | GP447            | QC2-31           | 5GA-Q47      |
| C81      | 100 NPO 50V 10%  |               | 0T2-100            | NP0100                    | CN0310           |                  | 10TCC-T10    |
| C82      | 150 NPO 50V 5%   |               | 0T2-150            |                           | CN0315           |                  | 10TCC-T15    |
| C83      | .01 25V          |               | UK25-103           |                           | MAG2511          |                  | HY-520       |
| C84      | .01 25V          |               | UK25-103           |                           | MAG2511          |                  | HY-520       |
| C85      | 33 NPO 50V ±10%  |               | 0T2-33             | NP033                     | CN0433           |                  | 10TCC-Q33    |
| C86      | 22 NPO 50V 10%   |               | 0T2-22             | NP022                     | CN0422           |                  | 10TCC-Q22    |
| C88      | 33 NPO 50V 10%   |               | 0T2-33             | NP033                     | CN0433           |                  | 10TCC-Q33    |
| C89      | 33 NPO 50V 10%   |               | 0T2-33             | NP033                     | CN0433           |                  | 10TCC-Q33    |
| C93      | .001 50V 10%     |               |                    | DPMS601                   | EWFI1A210        | QFT2-1           | 1FT-010      |
| C94      | .022 50V 10%     |               |                    | DPMS2522                  | H192P2239RB      | QFT2-127         | 1FT-S22      |
| C95      | 200 50V 10%      |               | 00-201             | GP200                     | GP320            |                  | 10TS-T20     |
| C96      | 200 50V 10%      |               | 00-201             | GP200                     | GP320            |                  | 10TS-T20     |
| C97      | 5 NPO 50V ±.5pF  |               |                    |                           |                  |                  | 10TCC-V50    |
| C98      | 47 H220 50V 10%  |               |                    |                           | *                |                  | 10TCR-Q47    |
| C99      | 22 NPO 50V 10%   |               | 0T2-22             | NP022                     | CN0422           |                  | 10TCC-Q22    |
| C100     | .01 25V          |               | UK25-103           |                           | MAG2511          |                  | HY-520       |
| C103     | .0027 50V 10%    |               |                    |                           | H192P2729RB      |                  | 192P2729RB   |
| C104     | .01 25V          |               | UK25-103           | WMF151                    | MAG2511          | QFT2-91          | HY-520       |
| C106     | .01 50V 10%      |               |                    | WMF151                    | EWFI1A110        |                  | 1FT-S10      |
| C108     | .01 25V          |               | UK25-103           |                           | MAG2511          | QFT2-91          | HY-520       |
| C109     | .01 50V 10%      |               |                    | WMF151                    | EWFI1A110        |                  | 1FT-S10      |
| C110     | 68 NPO 50V 10%   |               | 0T2-68             | NP068                     | CN0468           |                  | 10TCC-Q68    |
| C111     | 82 NPO 50V 10%   |               | 0T2-82             | NP082                     | CN0482           |                  | 10TCC-Q82    |
| C112     | 47 NPO 50V 10%   |               | 0T2-47             | NP047                     | CN0447           |                  | 10TCC-Q47    |
| C113     | 22 NPO 50V 10%   |               | 0T2-22             | NP022                     | CN0422           |                  | 10TCC-Q22    |
| C114     | 68 NPO 50V 10%   |               | 0T2-68             | NP068                     | CN0468           |                  | 10TCC-Q68    |
| C115     | .01 50V 10%      |               |                    | WMF151                    | EWFI1A110        | QFT2-91          | 1FT-S10      |
| C117     | .01 25V          |               | UK25-103           |                           | MAG2511          |                  | HY-520       |
| C118     | .001 50V 10%     |               | 00-102             |                           | GP210            |                  | 10TS-010     |
| C119     | 250 125V 5%      |               |                    | FD251(KJGF)03             | SX310            | QW1-27           | MWA-101      |
| C120     | 100 125V 5%      |               |                    | CD15FD101J03              | CN0433           |                  | 10TCC-Q33    |
| C121A    | 33 NPO 50V 10%   |               | 0T2-33             | NP033                     | CN0410           |                  | 10TCC-Q10    |
|          | 47 NPO 50V 10%   |               |                    |                           |                  |                  |              |
| C121B    | 10 NPO 50V       |               | 0T2-10             | NP010                     | CN0410           |                  | 10TCC-Q10    |
| C122     | 250 125V 5%      |               |                    | FD251(KJGF)03             | CN0315           |                  | 10TCC-T15    |
| C123     | 10 NPO 50V 10%   |               | 0T2-10             | NP010                     | GP210            |                  | 10TS-010     |
| C125     | 150 NPO 50V 10%  |               | 0T2-150            |                           | MAG2501          |                  | HY-750       |
| C126     | .001 50V         |               | 00-102             |                           | MAG2501          |                  | HY-750       |
| C127     | .1 25V           |               | UK25-104           |                           | MAG2501          |                  | HY-750       |
| C128     | .1 25V           |               | UK25-104           |                           | MAG2501          |                  | HY-750       |
| C129     | .1 25V           |               | UK25-104           |                           | MAG2501          |                  | HY-750       |
| C130     | .1 25V           |               | UK25-104           |                           | MAG2501          |                  | HY-750       |
| C131     | .022 50V 10%     |               |                    | DPMS2522                  | H192P2239RB      | QFT2-127         | 1FT-S22      |
| C132     | .022 50V 10%     |               |                    | DPMS2522                  | H192P2239RB      | QFT2-127         | 1FT-S22      |
| C139     | .1 25V           |               | UK25-104           |                           | MAG2501          |                  | HY-750       |
| C142B    | 100              |               | 00-101             | GP100                     | GP310            |                  | 10TS-T10     |
| C202     | .02              |               | UK50-223           |                           | MAG5012          |                  |              |
| C203     | .068 50V 10%     |               |                    | WMF156B                   | EWFI1A16B        | QF1-195          | 1PB-S6B      |
| TC1      | .00005           | C-0561        |                    |                           |                  |                  |              |
| TC2      | .00002           | C-D730        |                    |                           |                  |                  |              |

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

REALISTIC MODEL TRC-462

## CONTROLS (All wattages 1/2 watt, or less, unless listed)

| ITEM No. | FUNCTION            | RESIST-ANCE | REPLACEMENT DATA |                    |                  |              |
|----------|---------------------|-------------|------------------|--------------------|------------------|--------------|
|          |                     |             | MFR. PART No.    | CENTRALAB PART No. | MALLORY PART No. | TRW PART No. |
| VR1      | Squelch Range       | 20K         | P-0800           |                    |                  | X260R253B(2) |
| VR2      | AMC                 | 20K         | P-0800           |                    |                  | X260R253B(2) |
| VR3      | RF Gain             | 50          | P-0799           |                    |                  |              |
| VR4      | RF Meter            | 10K         | EVN-J0A00B14     |                    |                  | X260R103B(2) |
| VR5      | S Meter             | 2000        | C-0888           |                    |                  | U260R252B    |
| VR6      | Volume/Power Switch | 50K         | P-1858           | B16-216            |                  |              |
| VR7      | Squelch             | 50K         | P-0823           |                    |                  |              |

(2) Cut off one of the end terminals and bend to fit P.C. board.

## PARTS LIST AND DESCRIPTION (CONTINUED)

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

### RESISTORS (Power and Special)

| ITEM No.          | RATING                                         | REPLACEMENT DATA                 |                  | ITEM No.   | RATING                        | REPLACEMENT DATA     |                  |
|-------------------|------------------------------------------------|----------------------------------|------------------|------------|-------------------------------|----------------------|------------------|
|                   |                                                | MFGR. PART No.                   | WORKMAN PART No. |            |                               | MFGR. PART No.       | WORKMAN PART No. |
| R70<br>R71<br>RA1 | .47 $\pm$ 5%<br>.47 $\pm$ 5%<br>Resistor Array | NEG0008<br>NEG0008<br>RX-0048(1) |                  | RA2<br>TH1 | Resistor Array<br>10,000 Cold | RX-0048(1)<br>T-1012 |                  |

(1) Consists of seven 1000 Ohm Resistors.

### COILS (RF-IF)

| ITEM No. | FUNCTION                | REPLACEMENT DATA |                      |                 | REMARKS |
|----------|-------------------------|------------------|----------------------|-----------------|---------|
|          |                         | PART No.         | OTHER IDENTIFICATION | MILLER PART No. |         |
| L1       | RF Choke (2.7uH)        | CA-3731          | 2147                 |                 |         |
| L2       | Bandpass (1.5uH)        | CA-0734          | 1R5                  |                 |         |
| L3       | Bandpass (2.2mH)        | CA-7679          | 222J                 |                 |         |
| L4       | Bandpass (5.6uH)        | CA-3895          | 5R6                  |                 |         |
| L5       | VCO (16MHz)             | CA-3887          |                      |                 |         |
| L6       | Mixer (27uH)            | CA-3730          | 270                  | 9330-34         |         |
| L7       | Mixer (2.7uH)           | CA-3731          | 2R7                  |                 |         |
| L8       | Predriver (27MHz)       | CA-3735          | TKXN19139            |                 |         |
| L9       | RF Choke (10uH)         | CB-2196          | 100                  | 4622            |         |
| L10      | RF Choke (.84uH)        | CB-2195          |                      |                 |         |
| L11      | Driver (27MHz)          | CA-3889          |                      |                 |         |
| L12      | RF Choke (10uH)         | CB-2196          | 100                  | 4622            |         |
| L13      | RF Choke (.84uH)        | CB-2195          |                      |                 |         |
| L14      | Final Loading (27MHz)   | CA-3889          |                      |                 |         |
| L15      | Final Loading (27MHz)   | CA-3890          |                      |                 |         |
| L16      | Pi Filter (.4uH)        | CA-3488          |                      |                 |         |
| L17      | TVI Trap (.4uH)         | CA-3488          |                      |                 |         |
| L18      | Antenna Matching (.4uH) | CA-3488          |                      |                 |         |
| L19      | RF Choke (2.2mH)        | CA-7679          | 222J                 |                 |         |
| L21      | RF Choke (470uH)        | CA-3893          | 471                  | 9250-474        |         |
| L301     | RF Choke (1.2uH)        | CA-3894          | 1R2                  |                 |         |
| L302     | RF Choke (.84uH)        | CB-2195          |                      |                 |         |
| L303     | RF Choke (4.7uH)        | CA-3891          | 4R7                  |                 |         |
| L304     | RF Choke (10uH)         | CB-2196          | 100                  | 4622            |         |
| T1       | Rec Antenna (27MHz)     | CA-3811          | TKXN23345            |                 |         |
| T2       | IF (455kHz)             | CA-7843          | N352203H             |                 |         |
| T3       | IF (455kHz)             | CA-7844          | 4202                 | CBS404-4TC      |         |
| T7       | Noise Blanker (40MHz)   | CA-3738          | TKXN19117H           |                 |         |
| T8       | Noise Blanker (40MHz)   | CA-3738          | TKXN19117H           |                 |         |
| T9       | Mixer (16MHz)           | CA-3739          | TKXN19068X           |                 |         |
| T10      | Mixer (27MHz)           | CA-3885          | TKXC15950H           |                 |         |
| T11      | Mixer (27MHz)           | CA-3885          | TKXC15950H           |                 |         |
| T12      | Mixer (27MHz)           | CA-3885          | TKXC15950H           |                 |         |
| T13      | Mixer (10.24MHz)        | CA-3886          | TKXN17575H           |                 |         |
| T14      | Buffer (16MHz)          | CA-3739          |                      |                 |         |
| T15      | PLL (15.36MHz)          | CA-3740          | TKXN19067X           |                 |         |

### FILTER CHOKE

| ITEM No. | RATINGS            |         |                              | REPLACEMENT DATA |                     |                | NOTES |
|----------|--------------------|---------|------------------------------|------------------|---------------------|----------------|-------|
|          | CURRENT (Measured) | DC RES. | INDUCTANCE (0 CURRENT 1000~) | MFGR. PART No.   | THORDARSON PART No. | TRIAD PART No. |       |
| L20      | 1.5A               | .12     | 132uH                        | CB-0152          |                     |                |       |

### TRANSFORMER (MICROPHONE)

| ITEM No. | IMPEDANCE |      | REPLACEMENT DATA     |                     |                | NOTES               |
|----------|-----------|------|----------------------|---------------------|----------------|---------------------|
|          | PRI.      | SEC. | MFGR. PART No.       | THORDARSON PART No. | TRIAD PART No. |                     |
| T4       | 8         | 1000 | TC-0025<br>E7304 (1) |                     |                | (1) Number on unit. |

### TRANSFORMER (Driver)

| ITEM No. | TURNS RATIO |        |        | REPLACEMENT DATA     |                     |                | NOTES               |
|----------|-------------|--------|--------|----------------------|---------------------|----------------|---------------------|
|          | PRI.        | SEC. 1 | SEC. 2 | MFGR. PART No.       | THORDARSON PART No. | TRIAD PART No. |                     |
| T5       | 1           | .8CT   |        | TH-0124<br>E7207 (1) |                     |                | (1) Number on unit. |

## PARTS LIST AND DESCRIPTION (CONTINUED)

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

### TRANSFORMER (Audio Output)

| ITEM No. | IMPEDANCE |             | REPLACEMENT DATA      |                     |                | NOTES               |
|----------|-----------|-------------|-----------------------|---------------------|----------------|---------------------|
|          | PRI.      | SEC.        | MFGR. PART No.        | THORDARSON PART No. | TRIAD PART No. |                     |
| T6       | 32CT      | 1 8<br>2 16 | TH-0111<br>E6719A (1) |                     |                | (1) Number on unit. |

### SPEAKER

| ITEM No. | TYPE         | REPLACEMENT DATA |               | NOTES |
|----------|--------------|------------------|---------------|-------|
|          |              | MFGR. PART No.   | QUAM PART No. |       |
| SP1      | 3" PM 8 Ohms | S-4631           | 30A052BR      |       |

### FUSE DEVICES

| ITEM No. | DESCRIPTION     | REPLACEMENT DATA |        |               |        |                     |        |
|----------|-----------------|------------------|--------|---------------|--------|---------------------|--------|
|          |                 | PART No.         |        | BUSS PART No. |        | LITTELFUSE PART No. |        |
|          |                 | DEVICE           | HOLDER | DEVICE        | HOLDER | DEVICE              | HOLDER |
| F1       | 2A Quick Acting |                  |        | AGC2          | HRK    | 312002              | 150145 |

### MICROPHONE

| ITEM No. | REPLACEMENT DATA |             |                 |          | CONNECTION DATA |        |           |           |         |          |          |
|----------|------------------|-------------|-----------------|----------|-----------------|--------|-----------|-----------|---------|----------|----------|
|          | MFGR. PART No.   | GC PART No. | GC NOISE CANCEL | GC POWER | GC CONNECTOR    | GC Red | GC Shield | GC Yellow | GC Blue | GC White | GC Black |
| MIC      | M-2292           |             |                 |          |                 |        |           |           |         |          |          |

Microphone includes, up/down channel switches, meter, LED channel display, volume and squelch controls. Also functions as speaker.

### MISCELLANEOUS

| ITEM No. | PART NAME   | PART No.    | NOTES                                                            |
|----------|-------------|-------------|------------------------------------------------------------------|
| CF1      | Filter      | C-0889      | (27MHz)                                                          |
| CF2      | Filter      | C-0607      | (10.7MHz)                                                        |
| CF3      | Filter      | C-0891      | (455kHz)                                                         |
| CF4      | Filter      | C-0892      | (455kHz)                                                         |
| CF5      | Filter      | C-0890      | (10.7MHz)                                                        |
| J1       | Jack        | J-6542      | 22 Pin Connector Harness                                         |
| J2       | Jack        | J-6040      | External Speaker                                                 |
| J3       | Jack        | J-6407      | Antenna                                                          |
| J4       | Jack        | 5047-08     | 8 Pin Connector Harness                                          |
| J5       | Jack        | 5047-07     | 7 Pin Connector Harness                                          |
| LED1     | LED         | L-0800      | Readout, Tens & Units (Each segment supplied with 6.15V @ 7.4mA) |
| M1       | Meter       | M-0373      | SIRF                                                             |
| RY1      | Relay       | R-0075      | Power On/Off (400 Ohm)                                           |
| RY2      | Relay       | R-0008      | XMT/Rec (125 Ohm)                                                |
| S01      | Connector   | 570-220T-D3 | 22 Pin                                                           |
| S04      | Connector   | 5048-00A    | 8 Pin                                                            |
| S05      | Connector   | 5048-07A    | 7 Pin                                                            |
| SW1      | Switch      |             | Power On/Off (Part of Volume Control)                            |
| SW2      | Switch      | S-0845      | Channel Selector, Up/Down                                        |
| SW3      | Switch      | S-0601      | External/Internal/Handset                                        |
| SW4      | Switch      | S-7353      | XMT/Rec                                                          |
| X1       | Crystal     | MX-2309     | (10.24MHz)                                                       |
|          | Cord        |             | DC Receiver                                                      |
|          | P. C. Board | GE-22B-6658 | Main                                                             |
|          | P. C. Board | GE-22C-6441 | Microphone                                                       |

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

| ITEM              | PART No. | ITEM          | PART No. |
|-------------------|----------|---------------|----------|
| Bottom, Cabinet   | Z-3463   | Squelch, Knob | K-2845   |
| Escutcheon        | Z-3464   | Talk, Knob    | K-2846   |
| Microphone, Case  | Z-3948   | Top, Cabinet  | Z-3463   |
| Microphone, Cover | Z-3949   | Volume, Knob  | K-2844   |

### WIRING DATA

|                                                  |                       |                                |                             |
|--------------------------------------------------|-----------------------|--------------------------------|-----------------------------|
| General-use Hook-up Wire (available in 5 colors) | BELDEN No. 0523       | Coiled Microphone Cable        |                             |
| Shielded Hook-up Wire (spiral wrapped)           | BELDEN No. 0421       | 3-conductor (1 shielded) 23AWG | BELDEN No. 9471 (5')        |
| (braided)                                        | BELDEN No. 0401       |                                | BELDEN No. 8497 (6')        |
| Speaker Cable (available in 4 colors)            | BELDEN No. 8782       |                                | BELDEN No. 9472 (7-1/2')    |
| Bonding Strap                                    | BELDEN No. 8672       |                                | 28AWG BELDEN No. 9466 (6')  |
| AC Power Cord                                    | (6') BELDEN No. 17106 |                                | 31AWG BELDEN No. 9468 (10') |
|                                                  | (9') BELDEN No. 17109 | 4-conductor (unshielded)       | 23AWG BELDEN No. 8415 (6')  |
|                                                  |                       | 5-conductor (1 shielded)       | 28AWG BELDEN No. 9467 (6')  |
|                                                  |                       |                                | BELDEN No. 9465 (7-1/2')    |

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