

48, or 49) until the beat note is again zero. Turn the MAIN TUNING dial still farther toward the 5.0-mc line and make a further adjustment of the trimmer capacitor to return to zero beat. Repeat this procedure as many times as necessary to bring the dial to exactly 5.0 mc. (It is evident that the dial could be set at once on exactly 5.0 mc and the trimmer turned enough at one time to produce zero beat, but the step-by-step method is recommended). Accurately set the signal generator to 2.5 mc by calibrating it with the frequency meter. Then tune in the 2.5-mc signal at the l-f end of the MAIN TUNING dial and correct the calibration step-by-step, as before, using the inductance trimming adjustment H-F OSC-2.5 MC (fig. 46, 47, 48, or 49). Accurately set the signal generator for an output of 5 mc again, and tune the receiver to this frequency. It will be found that the adjustment of the inductance at 2.5 mc has changed the correction previously made at 5.0 mc. This is perfectly normal, because an adjustment at one end of the dial also affects the other end of the band. It will therefore be necessary to go back and forth several times from 2.5 to 5.0 mc in order to bring both ends of the dial scale into exact agreement with the signal frequency. Be sure that the signal generator is always *accurately* set.

**Caution:** During this adjustment be very careful to adjust the SENSITIVITY control so as to avoid overloading or to cause the reception of undesired signals.

d. After the r-f and mixer circuits have been aligned (par. 99), check and aline the other bands in a similar manner, if necessary.

## 99. R-F and Mixer Alinement Procedure

a. Although the alinement of the 1st and 2d r-f and mixer circuits can be checked at the same time as the h-f oscillator circuit, it is simpler to consider each check as a separate operation. Efficient weak-signal reception, with low receiver noise level and high image rejection ratios, depends on the relative alinement of these three circuits with respect to the h-f oscillator and without regard to calibration accuracy. As long as these circuits are adjusted to resonate at a frequency 465 kc lower than that of the h-f oscillator, good results will be obtained.

b. Accurate calibration of the signal generator is not required to check these adjustments. Modulation of the signal generator, while convenient, is not strictly necessary. The input to the antenna terminals should be through approximately 100 ohms,

including the output resistance of the signal generator. If the signal generator is modulated, set the receiver controls as for i-f alinement; if unmodulated, set the BEAT OSCILLATOR knob to 2 (on either side) and throw SIGNAL MOD-CW switch to CW. Adjust the SENSITIVITY control to produce a half-scale reading on the output meter when signals are exactly in tune.

c. Starting with the 2.5- to 5.0-mc band, set the MAIN TUNING dial at 5.0 mc (band spread dial at 100) and adjust the frequency of the signal generator for peak deflection of the output meter. Then check and adjust the setting of the trimmer marked MIXER and 5.0 MC in figure 46, 47, 48, or 49 for maximum reading on the output meter. Repeat this procedure on trimmers indicated as 2D RF and 1ST RF in the same row. If readjustments on one of these settings result in a sizable increase in output meter reading, slightly alter the SENSITIVITY control to reduce the reading to half-scale. After each adjustment check the tuning of the receiver to make sure that the test signal is still accurately tuned. The BAND SPREAD control may be used as a vernier for this purpose in those bands in which it operates (par. 15c). *This tuning check is extremely important at the high end of the 10- to 20-mc and 20- to 40-mc bands where there is some slight interaction between the mixer and h-f oscillator circuit.* After checking the three trimmers at the high end of this band, turn the MAIN TUNING dial to 2.5 mc and retune the signal generator to suit. Then check the three inductance adjuster settings marked 2.5 mc in the same row. Since adjustments at one end of a band also affect the other end of that band, it will be necessary to repeat the above procedure until no further improvement can be secured. The number of repetitions necessary will depend on how much mistuning existed to start with. Check the rest of the bands in the same manner.

d. For best possible efficiency with a particular antenna arrangement, the 1st r-f circuits may be adjusted without disconnecting the antenna. This can be done by loosely coupling the output of the signal generator to the antenna system instead of directly to the antenna terminals through a 100-ohm resistor. Make sure that the signal from the signal generator actually reaches the receiver by way of the antenna rather than by some form of direct coupling.

e. In all the foregoing tests using output meter readings for circuit adjustment, it is recommended that headphones (or speaker) be used to monitor

the signal. In this way false adjustments due to overloading and undesired reception of strong signals may be avoided.

### 100. L27 Alinement Procedure

The following method of visually alining grid coil L27 requires an f-m signal generator with a 465-kc output and an oscilloscope. If this equipment is available, proceed as in steps *a* through *d* below; otherwise, see step *e* below. Any f-m signal generator to be used for visual alinement should be checked for the presence of strong amplitude modulation in the output. This may be accomplished by using the lowest r-f frequency of the f-m signal generator, modulated at 400 cps, by connecting the r-f output cable to the vertical plates of the oscilloscope, and by stabilizing the pattern by the choice of the correct horizontal sweep frequency. The top and bottom of the oscilloscope pattern should be level. Any waveform observed above and below the average carrier level observed represents amplitude modulation which will result in erroneous visual alinement patterns. The f-m signal generator deviation should be reduced until a level pattern is observed. In no case should the deviation be less than 5 kc. If amplitude modulation cannot be eliminated from the f-m signal generator output, do not perform visual alinement.

*a.* Connect the input of the vertical amplifier of the oscilloscope to the PHONO connections on terminal strip E3 on the rear skirt of the receiver chassis. The *high* terminal is the second one from the end of the strip; the first terminal is connected

to the chassis. Use external synchronizing voltage from the signal generator for horizontal sweep.

*b.* Set the f-m signal generator to approximately 465 kc and connect its output to the control grid cap of mixer V3 through a fixed capacitor (100 mmf or larger).

*c.* With the CRYSTAL SELECTIVITY switch at OFF, readjust the signal generator frequency to produce the conventional single-peaked resonance curve on the screen of the oscilloscope. Turn the CRYSTAL SELECTIVITY switch to 3 and touch up the adjustments of T1, T2, T3, and T4 for maximum gain. Turn the CRYSTAL SELECTIVITY switch to OFF and note the waveform, which should be symmetrical.

*d.* Turn the CRYSTAL SELECTIVITY switch to position 1. If grid coil L27 is correctly tuned, the image on the oscilloscope screen will remain symmetrical but will be only about two-thirds as wide as before, indicating an increase in selectivity. The oscilloscope image is also affected by the PHASING control, maximum symmetry occurring at or very near the arrow in its scale. Therefore, when tuning L27, rock the PHASING control back and forth at the same time to secure best adjustment.

*e.* If an f-m signal generator with a 465-kc output is not available, an f-m signal generator with an output to which the receiver can be tuned, such as Signal Generator I-208, may be used. The output of the signal generator is connected to the A terminal of the receiver. Except for the signal frequency and connection of the signal generator, the method of alinement is the same as through *d* above.

## APPENDIX I

## REFERENCES

*Note.* For availability of items listed, check FM 21-6 and Supply Catalog SIG 1 and 2. Also see latest issue of FM 21-6 for applicable technical bulletins, supply bulletins, modification work orders, and changes thereto.

**1. Army Regulations**

AR 380-5 Safeguarding Military Information.

**2. Supply Publications**

SIG 1 & 2 Introduction and Index.  
 SIG 6 series Sets of Equipment.  
 (supply catalogs)  
 SIG 7 & Series Organizational Maintenance Allowances, and Field and Base Maintenance Stockage Guide.  
 (supply catalogs)  
 SIG 7-8-10 series Organizational Maintenance Allowances, and Field and Base Maintenance Stockage Guide (Including Fixed Plant Maintenance Lists).  
 (supply catalogs)  
 SIG 10-6 Fixed Plant Maintenance Lists.  
 (supply catalogs)  
 SB 11-6 Dry Battery Supply Data.  
 SB 11-76 Signal Corps Kit and Materials for Moisture- and Fungi-Resistant Treatment.  
 SB 11-17 Electron Tube Supply and Reference Data.

**3. Technical Manuals on Auxiliary Equipment and Test Equipment**

TM 11-300 Frequency Meter Sets SCR-211-( ).  
 TM 11-303 Test Sets I-56-C, -D, -H, and -J.  
 TM 11-307 Signal Generators I-72-G, -H, -J, and -K.  
 TM 11-317 Signal Generator I-208.  
 TM 11-321 Test Set I-56-E.  
 TM 11-2613 Voltohmmeter I-166.  
 TM 11-2626 Test Unit I-176.  
 TM 11-2627 Tube Tester I-177.

TM 11-430 Storage Batteries for Signal Communication, Except Those Pertaining to Aircraft.

**4. Painting, Preserving, and Lubrication**

TB SIG 13 Moistureproofing and Fungiproofing Signal Corps Equipment.  
 TB SIG 69 Lubrication of Ground Signal Equipment.

**5. Camouflage**

FM 5-20 Camouflage, Basic Principles.

**6. Packaging and Packing Instructions**

*a.* JOINT ARMY-NAVY PACKAGING SPECIFICATIONS.

JAN-D-169 Desiccants, Activated.  
 JAN-P-100 General Specifications.  
 JAN-P-106 Boxes, Wood, Nailed.  
 JAN-P-116 Preservation, Methods of.  
 JAN-P-125 Barrier Material, Waterproof.  
 JAN-P-131 Barrier Material, Moisture-Vaporproof, Flexible.

*b.* U. S. ARMY SPECIFICATION.

100-2E Marking Shipments by Contractors (and Signal Corps Supplement thereto).

*c.* SIGNAL CORPS INSTRUCTIONS.

720-7 Standard Pack.  
 726-15 Interior Marking.

**7. Decontamination**

TM 3-220 Decontamination.

**8. Demolition**

FM 5-25 Explosives and Demolitions.

## 9. Other Publications

FM 21-6	List and Index of War Department Publications.
FM 24-18	Radio Communication
FM 72-20	Jungle Warfare.
MWO SIG 11-866-1	Modification of Radic Receiver BC-779-A (Super Pro Receiver, Howard Model): To Prevent Excessive Failures of Bypass Capacitors.
MWO SIG 11-866-2	Modification of Power Supply Units RA-74, -B, and -C; RA-84, -A, and -B; and RA-94 and -A: To Prevent Damage in Handling and Shipping.
MWO SIG 11-866-3	Modification of Radio Receivers BC-779, -A, and -B; BC-794, -A, and -B; BC-1004, -B, -C, and -D; Power Supply Units RA-74, -B, and -C; RA-84, -A, and -B; RA-94 and -A: To Prevent Damage to Radio Equipment in Vehicular Installations by Providing Shock Mounts.
MWO SIG 11-866-4	Modification of Radio Receivers BC-779-(*), BC-794-(*), and BC-1004-(*): To Provide for Improved Stability of High-Frequency Oscillator Circuit.
SB 11-70	Replacement of Paper Dielectric Capacitor in Radio Receivers BC-779-(), BC-794-(), and BC-1004-().
TB SIG 4	Methods for Improving the Effectiveness of Jungle Radio Communication.
TB SIG 5	Defense against Radio Jamming.
TB SIG 25	Preventive Maintenance of Power Cords.
TB SIG 66	Preventive Maintenance of Signal Equipment.

TB SIG 72	Tropical Maintenance of Ground Signal Equipment.
TB SIG 75	Desert Maintenance of Ground Signal Equipment.
TB SIG 178	Preventive Maintenance Guide for Radio Communication Equipment.
TM 11-310	Schematic Diagrams for Maintenance of Ground Radio Communication Sets.
TM 11-314	Antennas and Antenna Systems.
TM 11-453	Shop Work.
TM 11-455	Radio Fundamentals.
TM 11-483	Suppression of Radio Noises.
TM 11-499	Radio Propagation Handbook.
TB 11-499-( )*	Basic Radio Propagation Predictions.
TM 11-4000	Trouble Shooting and Repair of Radio Equipment.
TM 11-4054	Radio Receivers BC-779-A and -B; BC-794-A and -B; BC-1004-A, -B, -C, and -D; and R-129/U; Repair Instructions.
TM 38-650	Basic Maintenance Manual.

## 10. Forms

WD AGO Form 468	(Unsatisfactory Equipment Report).
AAF Form 54	(Unsatisfactory Report).

## 11. Abbreviations and Symbols

a-c	alternating-current
a-f	audio-frequency
a-m	amplitude-modulated
amp	ampere
avc	automatic volume control
c-w	continuous-wave
bfo	beat frequency oscillator
cps	cycles per second
dc	direct current
f-m	frequency-modulated

\*A new TB in this series is issued monthly, giving propagation predictions 3 months in advance.

h-f high-frequency  
i-f intermediate-frequency  
kc kilocycle  
l-f low-frequency  
mc megacycle  
meg megohm  
mf microfarad  
mmf micromicrofarad  
muv microvolt

mw milliwatt  
R-C resistance-capacitance  
r-f radio-frequency  
v volt  
 $\Delta$  variation or change

## 12. Glossary

Refer to glossary in TM 11-455.

## APPENDIX II

### IDENTIFICATION TABLE OF REPLACEABLE PARTS

#### 1. Department of the Army Supply Catalog References

The following information was compiled on 4 December 1947. The appropriate pamphlets of the Department of the Army Supply Catalog for Radio Receivers BC-779, BC-794, BC-1004, and R-129/U (Hammarlund Super Pro), Power Supply Units RA-74, RA-84, and RA-94, and Radio Sets SCR-244 and SCR-704 are:

*Organizational Maintenance Allowances, and Field and Base Maintenance Stockage Guide (Including Fixed Plant Maintenance Lists)*

- SIG 7-8-10 BC-779
- SIG 7-8-10 BC-794
- SIG 7-8-10 BC-1004 (when published)
- SIG 10 R-129/U (when published) (Fixed Plant Maintenance List only)
- SIG 7-8-10 RA-74 (when published)
- SIG 7-8-10 RA-84 (when published)
- SIG 7-8-10 RA-94 (when published)
- SIG 7-8-10 SCR-244 (when published)
- SIG 7-8-10 SCR-704 (when published)

For an index of available supply catalog pamphlets, see the latest issue of Supply Catalog SIG 1 & 2.

#### 2. Identification Table of Replaceable Parts for Radio Sets SCR-244-A and SCR-244-B

*Note.* The following list covers organizational and field maintenance parts. Refer to paragraph 1 above for appropriate supply catalog pamphlets

Models		Name and description of part	Function of part	Signal Corps stock No.
SCR-244-A	SCR-244-B			
*	*	CABLE, RF: Sig C Wire W-151; twisted pair; 2 #18 AWG stranded cond; RC w/weather-proof outer braid.	Antenna lead-in .....	1B151
*	*	CORD CD-605: headset; 2 tinsel cond; RC; 6 ft 6" lg; w/Sig C Transformer C-410 one end; Sig C Plug PL-55, 2 cond telephone plug other end; Sig C spec No. 71-1525.	Headset HS-30 .....	3E1605-6.5
*	*	CORD CD-874: headset; 2 stranded cond; RC; 6 ft 6" lg; w/Sig C Plug PL-55, 2 cond telephone plug one end; Sig C Junction Box JB-47 other end.	Headset HS-30 .....	3E1874
*	*	HEADSET HS-30: radio and telephone; magnetic; impedance approx 250 ohms; 2 receivers 0.9" diam x 0.68" h; headband 6 1/8" max wd; w/cord and 2 Sig C Inserts M-300; Sig C spec No. 271-1518.	Headset HS-30 .....	2B830
*	*	INSULATOR IN-124: transposition; transposition block, center connection of double doublet antenna.	Insulator .....	3G624
*	*	INSULATOR IN-125: strain; round, rectangular; white glazed ceramic; 4" lg x 3/4" diam; 1/4" diam holes ea end.	Insulator .....	3G625
*	*	ROPE RP-3: cotton; braided; 1 1/64" max diam; No. 5; white; Sig C spec No. 71-217.	Antenna support .....	6Z7925
*	*	WIRE W-152: electrical; insulated; single #12 AWG cond; copper, E; stranded, 7 #20 AWG strands; E insulation.	Antenna .....	1B152

\*An asterisk in the *Models* column means that the item is part of the model indicated.

### 3. Identification Table of Replaceable Parts for Radio Set SCR-704

*Note.* The following list covers organizational and field maintenance parts. Refer to paragraph 1 of this appendix for appropriate supply catalog pamphlets.

Name and description of part	Function of part	Signal Corps stock No.
CABLE, RF: Sig C Wire W-151; twisted pair; 2 #18 AWG stranded cond; RC, w/weatherproof outer braid.	Antenna lead-in .....	1B151
CORD CD-605; headset; 2 tinsel cond; RC; 6 ft 6" lg; w/Sig C transformer C-410 one end; Sig C Plug PL-55, 2 cond telephone plug other end; Sig C spec No. 71-1525.	Headset HS-30 .....	3E1605-6.5
CORD CD-874; headset; 2 stranded cond; RC; 6 ft 6" lg; w/Sig C Plug PL-55, 2 cond telephone plug one end; Sig C Junction Box JB-47 other end.	Headset HS-30 .....	3E1874
HEADSET HS-30: radio and telephone; magnetic; impedance approx 250 ohms; 2 receivers 0.90" diam x 0.68" h; headband 6 1/8" max wd; w/cond and 2 Sig C Inserts M-300; Sig C spec No. 271-1518.	Headset HS-30 .....	2B830
INSULATOR IN-124: transposition; transposition block, center connection of double doublet antenna.	Insulator .....	3G624
INSULATOR IN-125: strain; round, rectangular; white, glazed ceramic; 4" lg x 3/4" diam; 1/4" diam holes ea end.	Insulator .....	3G625
ROPE RP-3: cotton; braided; 1 1/4" max diam; No. 5; white; Sig C spec No. 71-217.	Antenna support .....	6Z7925
WIRE W-152: electrical; insulated; single #12 AWG cond; copper E; stranded, 7 #20 AWG strands; E insulation.	Antenna .....	1B152

### 4. Identification Table of Replaceable Parts for Radio Receivers BC-779-A and -B; BC-794-A and -B; BC-1004-B, -C, and -D; and R-129/U

*Note.* The following list covers organizational and field maintenance parts. Refer to paragraph 1 of this appendix for appropriate supply catalog pamphlets.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
W2	*	*	*	*	CABLE ASSEMBLY, power: 8 cond, 6 # 20 AWG stranded, 2#16 AWG stranded; black cotton braid covered; 5/8" OD; 7 ft lg overall; w/Hammarlund No. 3837 or Jones No. 12, 10 term. strip one end; other end stripped and tinned; Hammarlund No. SA-67.	Battery connector cable ....	2C4528/3-1

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
W 1	*	*	*	*	CABLE ASSEMBLY, power: 9 cond, 7 #20 AWG stranded, 2 #16 AWG stranded; black cotton braid covered; 5/8" OD; 7 ft lg overall; w/Hammarlund No. 3837 or Jones No. 12, 10 term. strip ea end; Hammarlund No. SA-35.	Power supply connector cable.	2C4528/3
C26	*	*	*	*	CAPACITOR, fixed: mica; 51 mmf $\pm 5\%$ ; 500 vdcw; max body dimen 5 1/4" lg x 1 5/32" wd x 7/32" thk; JAN type CM20B510J.	V8 cathode bypass.....	3K2051022
C15	*	*	*	*	CAPACITOR, fixed: silver mica; 51 mmf $\pm 5\%$ ; 500 vdcw; max body dimen 5 1/4" lg x 1 5/32" wd x 7/32" thk; JAN type CM20C510J.	V4 grid coupling.....	3K2051032
C13	*	*	*	*	CAPACITOR, fixed: silver mica; 91 mmf $\pm 2\%$ ; 500 vdcw; max body dimen 5 1/4" lg x 1 5/32" wd x 7/32" thk; JAN type CM20C910G.	V3 injection grid coupling..	3K2091033
C3, C7, C11	*	*	*	*	CAPACITOR, fixed mica; 620 mmf $\pm 5\%$ ; 500 vdcw; body dimen 1 1/16" lg x 1 5/32" max wd x 7/32" max thk; JAN type CM25B621J.	V1, V2, V3 grid coupling...	3K2562122
C4, C5, C8, C9, C10, C12, C14, C16	*	*	*	*	CAPACITOR, fixed: paper; 10,000 mmf $\pm 20\%$ ; 400 vdcw; molded Bakelite case; 1 3/8" lg x 4 1/64" wd x 9/32" thk; wax impregnated; JAN type CN41A103M.	Bypass .....	3DA10-390
C24	*	*	*	*	CAPACITOR, fixed: paper; 20,000 mmf $\pm 10\%$ ; 600 vdcw; HS metal case; max body dimen 1 1/16" lg x 9/16" diam; oil impregnated; JAN type CP28A1FF203K.	V13 grid coupling.....	3DA20-188
C57, C58	*	*	*	*	CAPACITOR, fixed: silver mica; 300 mmf $\pm 2\%$ ; 500 vdcw; max body dimen 5 1/64" lg x 1 5/32" wd x 7/32" thk; JAN type CM20C301G.	V1, V2 plate coupling.....	3K2030133
C6	*	*	*	*	CAPACITOR, fixed: paper; 10,000 mmf $\pm 20\%$ ; 400 vdcw; molded Bakelite case; 1 3/8" lg x 4 1/64" wd x 9/32" thk; wax impregnated; JAN type CN41A103M.	V1 plate bypass.....	3DA10-390
C25, C27, C29	*	*	*	*	CAPACITOR, fixed: paper; 50,000 mmf $\pm 10\%$ ; 600 vdcw; HS metal case; max body dimen 1 3/16" lg x 1 1/16" diam; oil impregnated; JAN type CP28A1FF503K.	V14 grid coupling.....	3DA50-299
C18, C19, C20	*	*	*	*	CAPACITOR, fixed: paper; 3 sect; 50,000 -50,000 -50,000 mmf +20% -10%; 600 vdcw; HS metal case; max body dimen 1 3/16" lg x 1" wd x 3/4" h; oil impregnated; JAN type CP53B5FF503V.	Bypass .....	3DA50-298

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
C17	*	*	*	*	CAPACITOR, fixed: paper; 250,000 mmf $\pm 10\%$ ; 600 vdcw; HS metal case; max body dimen $2\frac{5}{16}$ " lg x $1\frac{1}{16}$ " diam; oil impregnated; JAN type CP28A1FF254K.	Extra a-v-c timing for cw...	3DA250-379
C31	*	*	*	*	CAPACITOR, fixed: paper; 2 sect; 250,000 -250,000 mmf +20% -10%; 600 vdcw; HS metal case; max body dimen 2" lg x $1\frac{3}{4}$ " wd x $\frac{7}{8}$ " h; oil impregnated; JAN type CP53B4FF254V.	Bypass .....	3DA250-378
C28	*	*	*	*	CAPACITOR, fixed: electrolytic; 40 mf $\pm 10\%$ ; 150 vdcw; $2\frac{3}{16}$ " lg x $1\frac{3}{16}$ " diam; aluminum case w/cardboard insulating tube outside; pos term. lead riveted to insulating end disk; self-supporting; Aerovox No. PRS-150; Hammarlund No. 6171.	V15, V16 cathode bypass...	3DB40-11
C32	*	*	*	*	CAPACITOR, variable: air; 2 sect; 3 to 6 mmf per sect; $1\frac{15}{16}$ " x $1\frac{15}{16}$ " w/ $\frac{1}{4}$ " base; slotted screw driver adj; 3 plates per sect; ceramic insulation; 2 mtg studs No. 4-40 x 0.187" lg, $2\frac{1}{32}$ " centers; Hammarlund No. SA-179.	Crystal filter phasing .....	3D9006V-17
C30	*				CAPACITOR, fixed: paper; 250,000 mmf $\pm 10\%$ ; 600 vdcw; HS metal case; max body dimen $2\frac{5}{16}$ " lg x $1\frac{1}{16}$ " diam; oil impregnated; JAN type CP28A1FF254K.	Bias supply bypass.....	3DA250-379
H3	*	*	*	*	CLAMP: meter; brass; nickel-plated; single bolt locking, screw driver adj; 2" OD x $1\frac{7}{8}$ " ID; 2" diam; Weston No. D-54108; Hammarlund No. 3926.	S meter mounting.....	3F2640
L4	*				COIL, RF: antenna pri input; single winding; unshielded; phenolic form; 100-200 kc w/Faraday shield for separating input from output coil; Hammarlund No. SA-162.	Antenna coupling .....	2C4528.3/10-4
L5	*				COIL, RF: antenna pri input; single winding; unshielded; phenolic form; 200-400 kc w/Faraday shield for separating input from output coil; Hammarlund No. SA-161.	Antenna coupling .....	2C4528.3/10-5
L3	*	*	*	*	COIL, RF: antenna pri input; single winding; unshielded; phenolic form; 2.5-5 mc w/Faraday shield for separating input from output coil; Hammarlund No. SA-48.	Antenna coupling .....	2C4528.3/10-1
L2	*	*	*	*	COIL, RF: antenna pri input; single winding; unshielded; phenolic form; 5-10 mc w/Faraday shield for separating input from output coil; Hammarlund No. SA-47.	Antenna coupling .....	2C4528.3/10-2

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
L1	*	*	*		COIL, RF: antenna pri input; single winding; unshielded; phenolic form; 10-20 mc w/Faraday shield for separating input from output coil; Hammarlund No. SA-46.	Antenna coupling .....	2C4528.3/10-3
L10	*				COIL, RF: antenna secd output, 1st RF grid input; single winding; unshielded; phenolic form; 100-200 kc; Hammarlund No. SA-159.	V1 grid input.....	2C4528.3/8-5
L9	*				COIL, RF: antenna secd output, 1st RF grid input; single winding; unshielded; phenolic form; 200-400 kc; Hammarlund No. SA-160.	V1 grid input.....	2C4528.3/8-6
L8	*	*	*	*	COIL, RF: antenna secd output, 1st RF grid input; single winding; unshielded; phenolic form; 2.5-5 mc; Hammarlund No. SA-116.	V1 grid input.....	2C4528.3/8-2
L7	*	*	*	*	COIL, RF: antenna secd output, 1st RF grid input; single winding; unshielded; phenolic form; 5-10 mc; Hammarlund No. SA-113.	V1 grid input.....	2C4528.3/8-3
L6	*	*	*		COIL, RF: antenna secd output, 1st RF grid input; single winding; unshielded; phenolic form; 10-20 mc; Hammarlund No. SA-110.	V1 grid input.....	2C4528.3/8-4
T5	*	*	*	*	COIL, RF: BFO; single winding, tuned; shielded; 5" h x 2" wd x 2" d; built-in capacitor; tuned from front panel of receiver; 465 kc; Hammarlund No. SA-169A.	V10 circuit .....	2C4528.7/9
L15, L20	*				COIL, RF: 2d RF grid, 1st detector grid; pri and secd windings, secd tuned; unshielded; phenolic form; tuned w/ext capacitor; ceramic base; 100-200 kc; Hammarlund No. SA-158.	V2, V3 grid input.....	2C4528.3/5-5
L14, L19	*				COIL, RF: 2d RF grid; 1st detector grid; pri and secd windings, secd tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 200-400 kc; Hammarlund No. SA-157.	V2, V3 grid input.....	2C4528.3/5-6
L13, L18	*	*	*	*	COIL, RF: 2d RF grid; 1st detector grid; pri and secd windings, secd tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 2.5-5 mc; Hammarlund No. SA-117.	V2, V3 grid input.....	2C4528.3/5-2
L35, L36		*			COIL, RF: choke; 5-pie universal wound; unshielded; 2.1 mh, 35 ohms DC resistance; 1½" lg x ½" diam; ceramic core; Hammarlund type CHX.	V1, V2 plate chokes.....	3C308-4

\* An asterisk in the *Models* column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
L12, L17	*	*	*	*	COIL, RF: 2d RF grid; 1st detector grid; pri and secd windings, secd* tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 5-10 mc; Hammarlund No. SA-114.	V2, V3 grid input.....	2C4528.3/5-3
L11, L16	*	*	*	*	COIL, RF: 2d RF grid; 1st detector grid; pri and secd windings, secd tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 10-20 mc; Hammarlund No. SA-111.	V2, V3 grid input.....	2C4528.3/5-4
L25	*				COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 100-200 kc; Hammarlund No. SA-156.	V4 grid input.....	2C4528.3/9-5
L24	*				COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 200-400 kc; Hammarlund No. SA-155.	V4 grid input.....	2C4528.3/9-6
L23	*	*	*	*	COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 2.5-5 mc; Hammarlund No. SA-118.	V4 grid input.....	2C4528.3/9-2
L22	*	*	*	*	COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 5-10 mc; Hammarlund No. SA-115.	V4 grid input.....	2C4528.3/9-3
L21	*	*	*		COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 10-20 mc; Hammarlund No. SA-112.	V4 grid input.....	2C4528.3/9-4
L38		*	*		COIL, RF: antenna pri input; single winding; unshielded; phenolic form; 540-1,160 kc w/Faraday shield for separating input from output coil; Hammarlund No. SA-50.	Antenna coupling .....	2C4528.7/10-6
L37		*	*	*	COIL, RF: antenna pri input; single winding; unshielded; phenolic form; 1,160-2,500 kc w/Faraday shield for separating input from output coil; Hammarlund No. SA-49.	Antenna coupling .....	2C4528.7/10-7
L40		*	*		COIL, RF: antenna secd output, 1st RF grid input; single winding; unshielded; phenolic form; 540-1,160 kc; Hammarlund No. SA-122.	V1 grid input.....	2C4528.7/8-7
L39		*	*		COIL, RF: antenna secd output, 1st RF grid input; single winding; unshielded; phenolic form; 1,160-2,500 kc; Hammarlund No. SA-119.	V1 grid input.....	2C4528.7/8-8

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
L42, L44			*	*	COIL, RF: 2d RF grid, 1st detector grid; pri and sec'd windings, sec'd tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 540-1,160 kc; Hammarlund No. SA-123.	V2, V3 grid input.....	2C4528.7/5-7
L41, L43			*	*	COIL, RF: 2d RF grid, 1st detector grid; pri and sec'd windings, sec'd tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 1,160-2,500 kc; Hammarlund No. SA-120.	V2, V3 grid input.....	2C4528.7/5-8
L46			*	*	COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 540-1,160 kc; Hammarlund No. SA-124.	V4 grid input.....	2C4528.7/9-7
L45			*	*	COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 1,160-2,500 kc; Hammarlund No. SA-121.	V4 grid input.....	2C4528.7/9-8
L47		*			COIL, RF: antenna pri input; single winding; unshielded; phenolic form; 10-20 mc w/Faraday shield for separating input from output coil; Hammarlund No. SA-46.	Antenna coupling .....	2C4528.3/10-3
L48		*			COIL, RF: antenna sec'd output, 1st RF grid input; single winding; unshielded; phenolic form; 20-40 mc; Hammarlund No. SA-130.	V1 grid input.....	2C4528.8/8-2
L49, L50		*			COIL, RF: 2d RF grid, 1st detector grid; pri and sec'd windings, sec'd tuned; unshielded; phenolic form; tunes 4/ext capacitor; ceramic base; 20-40 mc; Hammarlund No. SA-131.	V2, V3 grid input.....	2C4528.8/5-2
L51		*			COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 20-40 mc; Hammarlund No. SA-132.	V4 grid input.....	2C4528.8/9-2
L52		*			COIL, RF: antenna sec'd output, 1st RF grid input; single winding; unshielded; phenolic form; 1,250-2,500 kc; Hammarlund No. SA-136.	V1 grid input.....	2C4528.8/8-1
L53, L54		*			COIL, RF: 2d RF grid, 1st detector grid; pri and sec'd windings, sec'd tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 1,250-2,500 kc; Hammarlund No. SA-137.	V2, V3 grid input.....	2C4528.8/5-1

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
L55	*				COIL, RF: HF oscillator grid input; single winding, tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 1,250-2,500 kc; Hammarlund No. SA-138.	V4 grid input.....	2C4528.8/9-1
L1			*		COIL, RF: antenna pri input; single layer, universal wound; unshielded; phenolic form; 300-540 kc; Hammarlund No. SA-200.	Antenna coupling .....	2C4180-129/1
L6			*		COIL, RF: antenna secd output, 1st RF grid input; 3-pie universal wound; unshielded; phenolic form; 300-540 kc; includes 11-mmf silver mica fixed capacitor; Hammarlund No. SA-201.	V1 grid input.....	3C308-17
L11, L16			*		COIL, RF: 2d RF grid, 1st detector grid; pri and secd windings, secd tuned; unshielded; phenolic form; tunes w/ext capacitor; ceramic base; 300-540 kc; Hammarlund No. SA-202.	V2, V3 grid input.....	3C308-18
L21			*		COIL, RF: HF oscillator grid input; 2-pie universal wound; unshielded; phenolic form; 300-540 kc; includes one 190-mmf and one 50-mmf silver mica fixed capacitor; Hammarlund No. SA-203.	V4 grid input.....	3C308-16
Y1	*	*	*	*	CRYSTAL UNIT, quartz: one crystal plate; 465 kc; RCA No. M1-19453 per Hammarlund No. SA-178.	Crystal selectivity .....	2X27-465
N1	*				DIAL: band change sw; black Bakelite knurled knob w/etched aluminum round disk; knob 1 $\frac{5}{8}$ " diam, disk 2 $\frac{1}{8}$ " diam x $\frac{1}{16}$ " thk; shaft $\frac{1}{4}$ " diam w/2 setscrews; marked scale 100-200 kc, 200-400 kc, 2.5-5.0 mc, 5.0-10 mc, 10-20 mc; Hammarlund No. SA-163.	Band change switch.....	2Z5836.5
N3	*	*	*	*	DIAL: band spread indicator; w/mtg disk and hub; plastic; 0-100 divisions; 6" diam; Hammarlund No. SA-27.	Band spread tuning.....	2C4528/13
N2	*				DIAL: main tuning indicator; calibrated dial and masking disk; scales for 100-200 kc; 200-400 kc; 2.5-5.0 mc; 5-10 mc; 10-20 mc; 6" diam; Hammarlund No. SA-164.	Main tuning .....	2C4528.3/14
N4	*	*	*	*	DRIVE, dial: main tuning and band spread; includes bearing, shaft, and driving disk; bearing $\frac{61}{64}$ " lg x $\frac{5}{16}$ " diam; shaft $\frac{1}{2}$ "-32 x 2" lg; disk 1 $\frac{1}{2}$ " diam; Hammarlund No. SA-199.	Main and band spread dia drive.	2C4779B/D1

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
N5	*				DIAL: band change sw; black Bakelite knurled knob w/etched aluminum round disk; knob 1 $\frac{5}{8}$ " diam, disk 2 $\frac{1}{8}$ " diam x $\frac{1}{16}$ " thk; shaft $\frac{1}{4}$ " diam w/2 setscrews; marked scale 1,250-2,500 kc, 2.5-5.0 mc, 5.0-10 mc, 10-20 mc, and 20-40 mc; Hammarlund No. SA-134.	Band change switch.....	2Z5836.3
N6	*				DIAL: main tuning indicator; calibrated dial and masking disk; scales 1,250-2,500 kc, 2.5-5.0 mc, 5.0-10.0 mc, 10-20 mc, 20-40 mc; 6" diam; Hammarlund No. SA-164.	Main tuning .....	2C4528.3/14
N7	*				DIAL: band change sw; black Bakelite knurled knob w/etched aluminum round disk; knob 1 $\frac{5}{8}$ " diam, disk 2 $\frac{1}{8}$ " diam x $\frac{1}{16}$ " thk; shaft $\frac{1}{4}$ " diam w/2 setscrews; marked scale 540-1,160-2,500 kc, 2.5-5.0 mc, 5.0-10 mc, and 10-20 mc; Hammarlund No. SA-74.	Band change switch.....	2Z5836.4
N8	*				DIAL: main tuning indicator; calibrated dial and masking disk; scales 540-1,160 kc, 1,160-2,500 kc, 2.5-5.0 mc, 5-10 mc, and 10-20 mc; 6" diam; Hammarlund No. SA-25.	Main tuning .....	2C4528/14
N7	*			*	DIAL: band change sw; black Bakelite knurled knob w/etched aluminum round disk; knob 1 $\frac{5}{8}$ " diam, disk 2 $\frac{1}{8}$ " diam x $\frac{1}{16}$ " thk; shaft $\frac{1}{4}$ " diam w/2 setscrews; marked scale 300-540 kc, 5-10 mc, 540-1,160 kc, 1,160-2,500 kc, and 2.5-5.0 mc; Hammarlund No. SA-205.	Band change switch.....	2Z3714-66
N8	*			*	DIAL: main tuning indicator; calibrated dial and masking disk; scales 300-540 kc, 5-10 mc, 540-1,160 kc, 1,160-2,500 kc, and 2.5-5.0 mc; 6" diam; Hammarlund No. SA-204.	Main tuning .....	2Z3714-144
J1	*	*	*	*	JACK JK-34: telephone; for 2 cond. 0.250" diam plug; 1 $\frac{1}{4}$ " lg x 1" wd x $\frac{3}{4}$ " h; J1 cont arrangement; Sig C dwg No. SC-D-2339.	Reduced a-f output.....	2Z5534
E7, E8, E9, E10, E12, E14, E15, E16, E17	*	*	*	*	KNOB: round; black Bakelite; $\frac{1}{4}$ " diam shaft hole; No. 8-32 tapped hole and setscrew; 1 $\frac{1}{8}$ " diam w/pointer; $\frac{9}{16}$ " diam brass bushing; knurled finger grip; Kurz-Kasch No. S-308-64B; Hammarlund No. SA-86.	Knob .....	2Z5822-6.1
E11, E13	*	*	*	*	KNOB: round; black Bakelite; $\frac{1}{4}$ " diam shaft hole; No. 10-32 headless setscrew in tapped hole; 1 $\frac{5}{8}$ " diam x $\frac{3}{4}$ " thk over-all; brass bushing; knurled finger grip; Hammarlund No. 3856.	Knob .....	2Z5822-88

\* An asterisk in the *Models* column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
I1, I2	*	*	*	*	LAMP LM-25: incandescent; 6-8 v, 0.15 amp; Mazda No. 40, bulb T-3- $\frac{1}{4}$ clear; C-2 fil; miniature screw base.	Dial lamp .....	2Z5925
I3	*	*	*	*	LAMP LM-52: incandescent; 6-8 v, 0.15 amp; Mazda No. 47, bulb T-3- $\frac{1}{4}$ clear; $1\frac{3}{16}$ " lg over-all; miniature bayonet base.	Meter lamp .....	2Z5952
E28	*	*	*	*	LAMPHOLDER: miniature bayonet; steel shell, phenolic insert, cadmium pl; for 6-8 v, 0.15-amp lamp; $1\frac{3}{16}$ " lg x $\frac{7}{8}$ " diam; spring prongs grip in $\frac{5}{8}$ " diam hole; United-Carr No. 99315; Hammarlund No. 4929.	S meter lamp.....	2Z5883-15
E26, E27	*	*	*	*	LAMPHOLDER: miniature screw base; metal base and bracket; for 6-8 v 0.15-amp lamp; approx 2" lg over-all w/ $1\frac{1}{4}$ " lg adj slot; Drake No. 106CE (for tuning and band spread dial).	Dial light lampholder.....	2Z5882-10
M1	*	*	*	*	METER, ammeter: DC; 0-200 ua; round, metal flush mtg case; 2" diam body; black numerals on white background; self-contained; special scale calibrated 1 to 9; Hammarlund No. 4903.	Tuning and S indicator....	2C4528.7/15
R31, R32	*	*	*	*	RESISTOR, fixed: wire-wound; 4 ohms $\pm 5\%$ ; 7 w; max body dimen $1\frac{1}{16}$ " lg x $1\frac{1}{32}$ " diam; JAN type RW30G4RO.	V9 heater and dial lamp dropping.	3RW9902
R38	*	*	*	*	RESISTOR, fixed: composition; 300 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF301J.	Bias voltage divider.....	3RC21BF301J
R36	*	*	*	*	RESISTOR, fixed: wire-wound; 750 ohms $\pm 5\%$ ; 10 w; body dimen $1\frac{3}{4}$ " lg x $\frac{3}{8}$ " diam; Utahrad type 10-VWQ; Hammarlund No. 3836.	V15, V16 cathode biasing...	3Z6075-1
R39	*	*	*	*	RESISTOR, fixed: composition; 1,800 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF182J.	Bias voltage divider.....	3RC21BF182J
R3, R7, R15, R16, R17, R20, R21	*	*	*	*	RESISTOR, fixed: composition; 2,000 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF202J.	Plate and screen filter.....	3RC21BF202J
R40	*	*	*	*	RESISTOR, fixed: composition; 3,000 ohms $\pm 5\%$ ; 1 w; max body dimen 1.28" lg x 0.310" diam; JAN type RC31BF302J.	Bias voltage divider.....	3RC31BF302J
R35, R54, R55	*	*	*	*	RESISTOR, fixed: composition; 5,100 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF512J.	Filter and load.....	3RC21BF512J

\* An asterisk in the *Models* column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
R2, R6, R10, R18, R22	*	*	*	*	RESISTOR, fixed: composition; 10,000 ohms $\pm 10\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF103K.	Grid filters .....	3RC21BF103K
R14	*	*	*	*	RESISTOR, fixed: composition; 12,000 ohms $\pm 10\%$ ; 2 w; max body dimen 1.78" lg x 0.405" diam; JAN type RC41BF123K.	V4 plate filter.....	3RC41BF123K
R4, R8	*	*	*	*	RESISTOR, fixed: composition; 2,000 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF202J.	V1, V2 plate filter.....	3RC21BF202J
R53	*	*	*	*	RESISTOR, fixed: composition; 24,000 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF243J.	V12 load .....	3RC21BF243J
R12	*	*	*	*	RESISTOR, fixed: composition; 24,000 ohms $\pm 5\%$ ; 2 w; max body dimen 1.78" lg x 0.405" diam; JAN type RC41BF243J.	V3 screen filter.....	3RC41BF243J
R11, R13	*	*	*	*	RESISTOR, fixed: composition; 50,000 ohms $\pm 10\%$ ; $\frac{1}{3}$ w; body diam $\frac{47}{64}$ " lg x $\frac{15}{64}$ " diam; ceramic insulation; IRC type F- $\frac{1}{3}$ ; Hammarlund No. 4960.	Grid coupling .....	3Z6650-77
R25, R34	*	*	*	*	RESISTOR, fixed: composition; 51,000 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF513J.	V3, V4 grid coupling.....	3RC21BF513J
R23, R28, R37	*	*	*	*	RESISTOR, fixed: composition; 51,000 ohms $\pm 5\%$ ; 1 w; max body dimen 1.28" lg x 0.310" diam; JAN type RC31BF513J.	Filter and load.....	3RC31BF513J
R24	*	*	*	*	RESISTOR, fixed: composition; 75,000 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF753J.	V8 load .....	3RC21BF753J
R30	*	*	*	*	RESISTOR, fixed: composition; 240,000 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF244J.	V8 cathode biasing.....	3RC21BF244J
R1, R5, R9	*	*	*	*	RESISTOR, fixed: composition; 500,000 ohms $\pm 10\%$ ; $\frac{1}{3}$ w; body dimen $\frac{47}{64}$ " lg x $\frac{15}{64}$ " diam; ceramic insulation; IRC type F- $\frac{1}{3}$ ; Hammarlund No. 4959.	Grid coupling .....	3Z6750-17
R57, R58,			*	*	RESISTOR, fixed: wire-wound; 20 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen $\frac{21}{32}$ " lg x $\frac{15}{64}$ " diam; JAN type RU3C200J.	L42, L44 selectivity controlling.	3RU18802
R27, R29, R33	*	*	*	*	RESISTOR, fixed: composition; 510,000 ohms $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF514J.	Grid coupling and screen dropping.	3RC21BF514J

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
R52	*	*	*	*	RESISTOR, fixed: composition; 1 meg $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF105J.	A-v-c timing .....	3RC21BF105J
R19	*	*	*	*	RESISTOR, fixed: composition; 2 meg $\pm 5\%$ ; $\frac{1}{2}$ w; max body dimen 0.655" lg x 0.249" diam; JAN type RC21BF205J.	AVC-MANUAL shunt....	3RC21BF205J
R41	*	*	*	*	RESISTOR, variable (potentiometer): composition; 1,000 ohms $\pm 20\%$ ; $\frac{1}{2}$ w; 3 solder lug term.; body dimen $1\frac{1}{8}$ " diam x $1\frac{1}{32}$ " lg; bushing $\frac{3}{8}$ "-32 x $\frac{3}{8}$ "; shaft $\frac{1}{4}$ " diam x $1\frac{1}{2}$ " lg; Clarostat No. 37; Hammarlund No. 5080.	S meter shunt.....	2Z7268.13
R56	*	*	*	*	RESISTOR, variable (potentiometer): composition; 50,000 ohms $\pm 20\%$ ; $\frac{1}{2}$ w; 5 solder lug term.; body dimen $1\frac{1}{4}$ " diam x $\frac{9}{16}$ " behind panel; shaft $\frac{1}{4}$ " diam x $2\frac{5}{32}$ " lg; bushing $\frac{3}{8}$ "-32 x $\frac{3}{8}$ "; taper "A"; SPST sw; IRC type C; Hammarlund No. 5023 (RF and IF sensitivity control).	Sensitivity control .....	2Z7270.16
R26	*	*	*	*	RESISTOR, variable (potentiometer): composition; 250,000 ohms $\pm 20\%$ ; $\frac{1}{2}$ w; 3 solder lug term.; body dimen $1\frac{1}{4}$ " diam; taper "B"; IRC type C; Hammarlund No. 4919.	A-f gain control.....	2C4528.6/16
X1 to X16	*	*	*	*	SOCKET, tube: octal; mica-filled Bakelite; $1\frac{3}{4}$ " lg x $1\frac{9}{32}$ " x $\frac{7}{8}$ " d over-all; Amphenol No. MIP8TM.	Tube sockets .....	2Z8795.12
SW5	*	*	*	*	SWITCH, rotary: SPST; $1\frac{1}{8}$ " diam; shaft $\frac{1}{4}$ " diam x $10\frac{3}{4}$ " lg; Hammarlund No. 4916.	Noise limiter .....	3Z9900-3
SW2	*	*	*	*	SWITCH, rotary: SPST; $1\frac{1}{8}$ " diam; x $\frac{3}{8}$ " lg; $\frac{1}{4}$ " diam shaft; Hammarlund No. 4917.	Send-receive .....	3Z9900-2
SW7	*	*	*	*	SWITCH, rotary: 8 pole, 6 position; fiber insulation; 2 cont inside, 1 position; single hole, $\frac{1}{4}$ " diam shaft, $\frac{3}{8}$ " x $\frac{3}{8}$ "-32 bushing; Hammarlund No. 4911.	Crystal filter selectivity....	3Z9903-5
SW6	*	*	*	*	SWITCH, toggle: DPST; 30 v, 15 amp; 125 v, 3 amp; 250 v, 1 amp; molded or laminated plastic; $1\frac{13}{32}$ " lg x $1\frac{7}{32}$ " wd x 2" d over-all; locking, normally open; solder lug term.; JAN type ST28K.	Power off-on .....	3Z9859-52
SW4	*	*	*	*	SWITCH, toggle: DPDT; 250 v, 15 amp; molded or laminated plastic; $1\frac{13}{32}$ " lg x $1\frac{7}{32}$ " wd x $\frac{9}{16}$ " d w/ $\frac{15}{32}$ " sleeve; locking action, normally open; solder lug term.; JAN type ST28N.	AVC-MANUAL .....	3Z9863-28N

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
T7	*	*	*	*	TRANSFORMER, AF: plate coupling type; pri 3,000 ohms impedance, secd CT, 34 ma DC; 2 $\frac{3}{4}$ " x 2 $\frac{13}{16}$ " x 3 $\frac{1}{2}$ " h; ratio 1.14 to 1; Chi Trans No. 4212-C; Hammarlund No. 5081.	V15, V16 push-pull input...	2Z9635.7
SW3	*	*	*	*	SWITCH, rotary: DPST; $\frac{1}{3}$ amp, 250 v; 1 $\frac{9}{16}$ " wd x $\frac{3}{4}$ " h over-all; locking action type, normally open; solder lug term.; mts w/ $\frac{3}{8}$ " x 1 $\frac{1}{32}$ "-32 thd bushing; $\frac{1}{4}$ " diam x $\frac{3}{8}$ " lg shaft; AH and H No. 1572.	Signal mod-cw .....	3Z9826-5.1
T8	*	*	*	*	TRANSFORMER, AF: plate coupling type; pri 10,000 ohms impedance, CT; secd 600 ohms; 8,000 ohms impedance; fully inclosed metal case; 2 $\frac{3}{4}$ " x 2 $\frac{9}{16}$ " x 3 $\frac{1}{2}$ " h; Hammarlund No. 5082.	V15, V16 push-pull out-put.	2Z9632.66
T6	*	*	*	*	TRANSFORMER, IF: 465 kc, AVC diode input; shielded; 2" x 2" x 5"; fixed selectivity; includes C51, C52, C53, C54, C55, C56, L34, R51, R52, R53, R54, and R55; Hammarlund No. SA-168A.	V12 input .....	2C4528.7/61
T1	*	*	*	*	TRANSFORMER, IF: 465 kc; crystal filter, variable selectivity; shielded; 2 $\frac{3}{32}$ " x 3" x 5" h; powdered iron core; adj iron core tuning w/variable air capacitor; includes crystal and 6 position sw w/crystal selectivity and phasing adj from front panel; Hammarlund No. SA-178-A.	Selectivity varying .....	2C4528.7/63
T2, T3	*	*	*	*	TRANSFORMER, IF: 465 kc; 1st IF, 2d IF; shielded; 5" x 2" x 2"; double tuned; variable air trimmers; Hammarlund No. SA-166A.	Bandwidth varying .....	2C4528.7/5.1
T4	*	*	*	*	TRANSFORMER, IF: 465 kc; 2d detector input; shielded; 5" h x 2" wd x 2" d; double tuned; variable air trimmers; Hammarlund No. SA-167A.	V8 input .....	2C4528.6/7
V13	*	*	*	*	TUBE, electron: JAN-6C5.....	1st AF .....	2J6C5
V14, V15, V16	*	*	*	*	TUBE, electron: JAN-6F6.....	A-F DRIVER and OUT-PUT.	2J6F6
V8, V12	*	*	*	*	TUBE, electron: JAN-6H6.....	DETECTOR and A-V-C RECTIFIER.	2J6H6
V4	*	*	*	*	TUBE, electron: JAN-6J7.....	H-F OSC .....	2J6J7
V1, V5, V2	*	*	*	*	TUBE, electron: JAN-6K7.....	1st RF, 1st IF, 2d RF.....	2J6K7

\* An asterisk in the Models column means that the item is part of the model indicated.

Ref symbol	Models				Name and description of part	Function of part	Signal Corps stock No.
	BC-779-A, -B	BC-794-A, -B	BC-1004-B, -C, -D	R-129/U			
V3	*	*	*	*	TUBE, electron: JAN-6L7.....	Mixer .....	2J6L7
V9	*	*	*	*	TUBE, electron: JAN-6N7.....	Limiter .....	2J6N7
V10	*	*	*	*	TUBE, electron: JAN-6SJ7.....	B-F OSC .....	2J6SJ7
V6, V11, V7	*	*	*	*	TUBE, electron: JAN-6SK7Y.....	2d IF, AVC AMPLR, 3d IF.	2J6SK7Y

\* An asterisk in the Models column means that the item is part of the model indicated.

### 5. Identification Table of Replaceable Parts for Power Supply Units RA-74-B and -C, RA-84-A and -B, and RA-94-A

Note. The following list covers organizational and field maintenance parts. Refer to paragraph 1 of this appendix for appropriate supply catalog pamphlets.

Ref symbol	Models			Name and description of part	Function of part	Signal Corps stock No.
	RA-74-B, -C	RA-84-A, -B	RA-94-A			
E1	*	*	*	BOARD, terminal: connecting power to receiver; 10 screw term.; arranged in groups of 5 term. ea; phenolic; term. numbered 1 to 10; HB Jones Co. per Hammarlund No. 3838.	Receiver connections.....	2C4528/35
W1	*	*	*	CABLE ASSEMBLY, power: uses type SJ cable; 2 #18 AWG stranded cond; RC; 600 v insulation; 7 ft lg; w/Belden No. 1047, 2 cont male connector one end; other end stripped and tinned; Belden type SJ cable, Corwire cable type POSJ-664-53; Hammarlund No. 6143.	A-c line cord.....	3E4060
C2	*	*	*	CAPACITOR, fixed: paper; 4 sect; 3-3-3-3 mf +20%; 600 vdcw; HS metal can; 4½" lg x 3¾" wd x 1¾" thk; Dykanol oil filled; requires TJL type footed clamp brackets for mtg; Dubilier No. PC-1937; Hammarlund No. 4883.	Bias supply filter.....	3DB3.12
C1	*	*	*	CAPACITOR, fixed: paper; 4 sects; 8-8-8-8 mf +20% -10%; 600 vdcw; HS metal can; 3¾" lg x 3¾" x 4¾" h; Dykanol G impregnated; requires TJL type footed clamp brackets for mtg; Dubilier No. PC-1936; Hammarlund No. 4884.	Plate supply filter.....	3DB8-44

\* An asterisk in the Models column means that the item is part of the model indicated.

Ret symbol	Models			Name and description of part	Function of part	Signal Corps stock No.
	RA-74-B, -C	RA-84-A, -B	RA-94-A			
	*	*	*	CONNECTOR, plug: 2 flat parallel male blade cont; straight; 1 $\frac{9}{16}$ " OD x 1 $\frac{1}{4}$ " lg less cont; 15 amp, 125 v, 10 amp, 250 v; cylindrical steel body, cad pl; Bakelite insert; cable opening $\frac{9}{32}$ " diam w/cable clamp; Hubbell No. 7057.	A-c line cord.....	6Z1727
F1	*	*	*	FUSE FU-27: cartridge; 2 amp, 250 v; glass body; ferrule term.; 1 $\frac{1}{4}$ " lg x $\frac{1}{4}$ " diam over-all.	Power line fuse.....	3Z1927
E3	*	*	*	HOLDER, fuse: extractor post; for No. 3AG cartridge fuse; molded black Bakelite body; 125 v AC or DC, 10 amp max; 2 $\frac{1}{8}$ " lg over-all, 2 solder lug term.; red extractor knob; Littelfuse No. 341001.	Power line fuse holder..	3Z3275
L1	*			REACTOR: filter choke; 25 hy at 0.160 amp; 350 ohms DC resistance; 1,000 v DC insulation test; inclosed metal case; 3 $\frac{5}{8}$ " x 4 $\frac{7}{16}$ " x 4 $\frac{1}{2}$ " over-all; 6 mtg holes, 3 $\frac{7}{8}$ " c; Chi Trans No. 7410-A; Hammarlund No. 5084.	First filter choke.....	3C317-12
L2	*			REACTOR: filter choke; 50 hy, at 0.110 amp; 1,150 ohms DC resistance; inclosed metal case 3 $\frac{5}{8}$ " x 4 $\frac{7}{16}$ " x 4 $\frac{1}{2}$ " over-all; 6 mtg holes, 3 $\frac{7}{8}$ " c; Chi Trans No. 7393-A; Hammarlund No. 5085.	Second filter choke.....	3C317-13
L1		*		REACTOR: filter choke; 25 hy at 0.160 amp; 350 ohms DC resistance; 1,000 v DC insulation test; inclosed metal case; impregnated and potted; 3 $\frac{5}{8}$ " x 3 $\frac{1}{4}$ " x 4 $\frac{5}{16}$ " h; 4 mtg holes, 3 $\frac{7}{8}$ " c; Chi Trans No. 7410-B; Hammarlund No. 5084.	First filter choke.....	3C317-38
L1			*	REACTOR: filter choke; 20 hy at 0.16 amp; 350 ohms DC resistance; 2,400 v AC insulation; potted metal case; 1 $\frac{3}{8}$ " x 2 $\frac{3}{4}$ "; 6 mtg holes, 3.87" c; fungicide treated; Chi Trans No. 7410D; Hammarlund No. 5084.	First filter choke.....	3C308-9
L2		*	*	REACTOR: filter choke; 50 hy at 0.10 amp; 1,100 ohms DC resistance; potted metal case; 4 $\frac{1}{4}$ " h x 3 $\frac{1}{8}$ " wd x 3 $\frac{1}{8}$ " lg; 6 mtg holes; Chi Trans No. 7393; Hammarlund No. 4999.	Second filter choke.....	3C308-10
R1	*	*	*	RESISTOR, fixed: wire-wound; 18,000 ohms $\pm 5\%$ ; 10 w; tapped at 9,500 ohms; 6 $\frac{1}{2}$ " lg x 1 $\frac{3}{16}$ " wd x $\frac{3}{16}$ " thk; 3 solder lug term. on top; Wirt Co. "Steelbak"; Hammarlund No. 4946.	Plate supply voltage divider.	2C4528.6/18

\* An asterisk in the *Models* column means that the item is part of the model indicated.

Ref symbol	Models			Name and description of part	Function of part	Signal Corps stock No.
	RA-74-B, -C	RA-84-A, -B	RA-94-A			
R2	*	*	*	RESISTOR, fixed: wire-wound; 24,000 ohms $\pm 10\%$ ; 10 w; tapped at 8,000 and 16,000 ohms; $6\frac{1}{2}$ " lg x $1\frac{3}{16}$ " wd x $\frac{3}{16}$ " thk; 4 solder lug term. on top; Wirt Co. "Steelbak"; Hammarlund No. 4882.	Bias supply filter.....	3Z6624-1
X1, X2	*	*	*	SOCKET, tube: medium 4 cont; round black plastic w/metal saddle; $1\frac{3}{4}$ " lg x $1\frac{9}{32}$ " x $\frac{7}{8}$ " d over-all; Amphenol No. MIP-4.	Tube sockets.....	2Z8654.1
T1, T2, T3	*	*	*	TRANSFORMER, power: fil and plate; input 95/105/117/130, 190/210/230/260 v AC, 25-60 cyc; 5 output windings; secd No. 1, 435 v, 160 ma, DC; secd No. 2, 315 v, 11 ma, DC; secd No. 3, 6.3 v, 7 amp; secd No. 4, 5.0 v, 2 amp; secd No. 5, 5.0 v, 3 amp; inclosed metal case; $6\frac{1}{2}$ " x $7\frac{1}{8}$ " x $6\frac{1}{16}$ " over-all; Chi Trans No. 8050-A; Hammarlund No. 5086.	Power transformers.....	2Z9608-6
V1	*	*	*	TUBE, electron: JAN-5Z3.....	Plate supply rectifier.....	2J5Z3
V2	*	*	*	TUBE, electron: JAN-80.....	Bias supply rectifier.....	2J80

\* An asterisk in the *Models* column means that the item is part of the model indicated.

## APPENDIX III

## IMPROVEMENT KIT MC-531

**1. Purpose**

Improvement Kit MC-531 is designed to stabilize the operation of the radio receiver under conditions of varying line voltage and ambient temperature changes by means of a crystal oscillator which provides for crystal-controlled reception at any one of three signal frequencies, in the frequency range of 1.5 to 20 mc.

**2. Circuit Theory**

a. The circuit of Improvement Kit MC-531 (fig. 53) is an electron-coupled Pierce oscillator utilizing a Tube JAN-6AC7. The crystal oscillatory circuit consists of the cathode, control grid, screen, capacitors C3 and C5, and the crystal unit selected. Capacitor C4 prevents d-c voltage from appearing across the crystal units. The crystal oscillatory circuit is electron-coupled to the plate of tube JAN-6AC7. The h-f oscillator tank circuit in the radio receiver is used as the tuned plate circuit. This tuned circuit may be tuned by the MAIN TUNING control to the fundamental, second, or third harmonic of the crystal frequency. Note that the tuned plate circuit, which is actually the receiver h-f oscillator tank, is different for every band. Plate voltage is supplied through r-f coil L1. Coupling capacitor C1 also prevents d-c voltage from appearing across the receiver h-f oscillator tank circuit. The suppressor grid and cathode are connected to

ground directly, while the screen grid is held above r-f ground by r-f coil L2. The suppressor grid serves to prevent the plate load from affecting the Pierce crystal oscillator circuit.

b. Change of crystal oscillator frequency over a minimum range of  $\pm 0.005$  percent is obtained when  $\Delta$  FREQ HIGH-LOW capacitor C5 is rotated toward maximum (LOW) or minimum (HIGH) capacitance from its midpoint setting. The crystals operate at nominal frequency with capacitor C5 in the half-open (midpoint) position. In the OFF (normal) position, rotary XTALS switch S1, section 1 rear, applies plate voltage to the receiver h-f oscillator tube, while removing plate voltage from the crystal oscillator tube. For crystal operation, plate voltage is removed from the h-f oscillator tube and applied to the crystal oscillator tube. Switch S1, section 2, front, selects the desired crystal. The receiver h-f oscillator tank circuit, which is connected to the output of the crystal oscillator, is tuned to the signal frequency by the MAIN TUNING dial. The signal frequency to be crystal-controlled is then the fundamental, second, or third harmonic of the crystal unit, less the i.f. of the receiver. Capacitor C2 places one side of L2 at r-f ground and also decouples the screen circuit. Rectified grid current causes a bias voltage to appear across R1. Screen voltage is supplied through R2 and L2. Interaction between harmonically related crystals is prevented by switch S1, section 2, rear, which short circuits unused crystals.

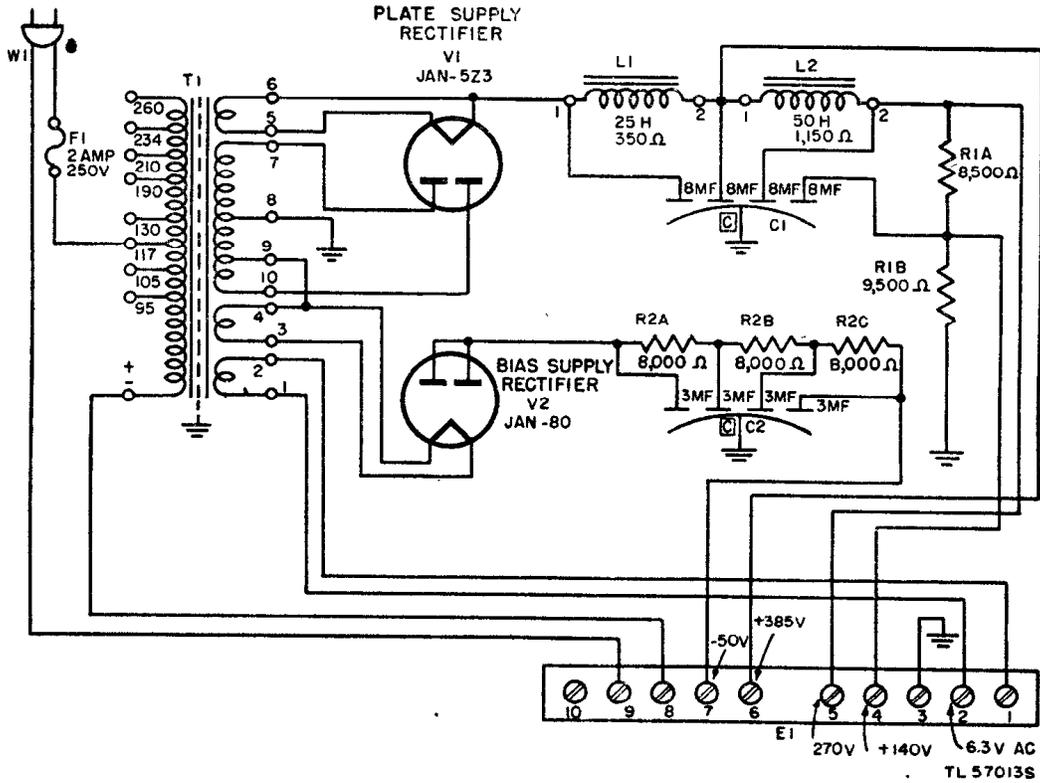


Figure 50. Power Supply Unit RA-74-B, -C, schematic diagram.

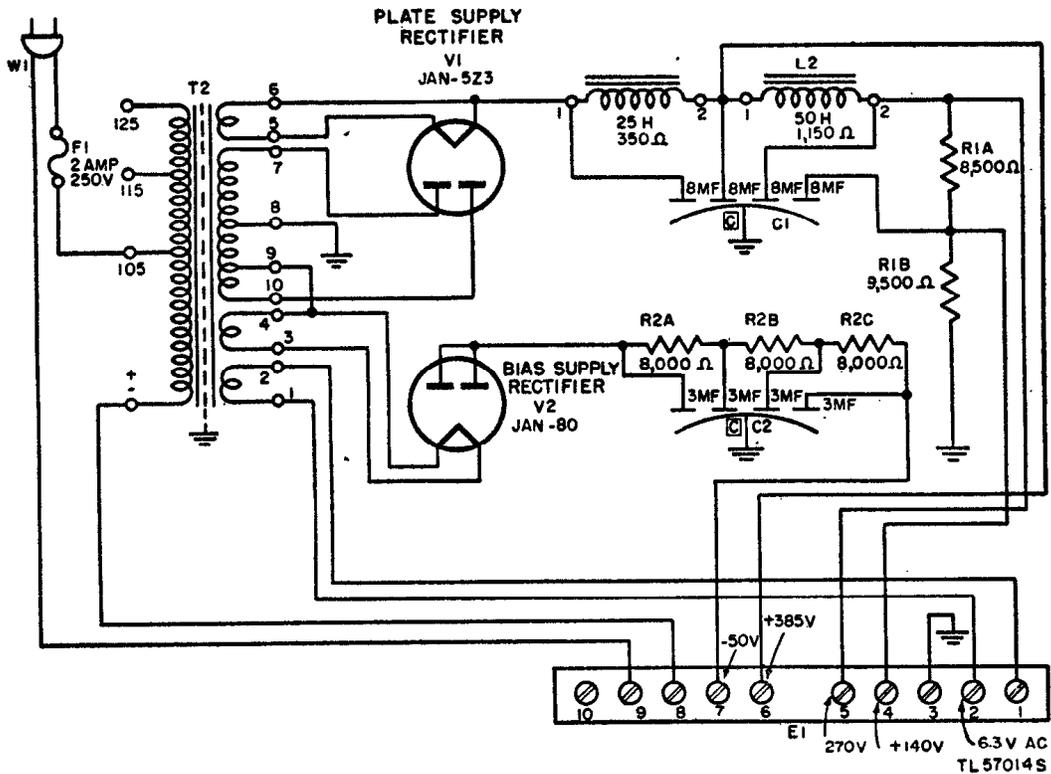


Figure 51. Power Supply Unit RA-84-A, -B, schematic diagram.

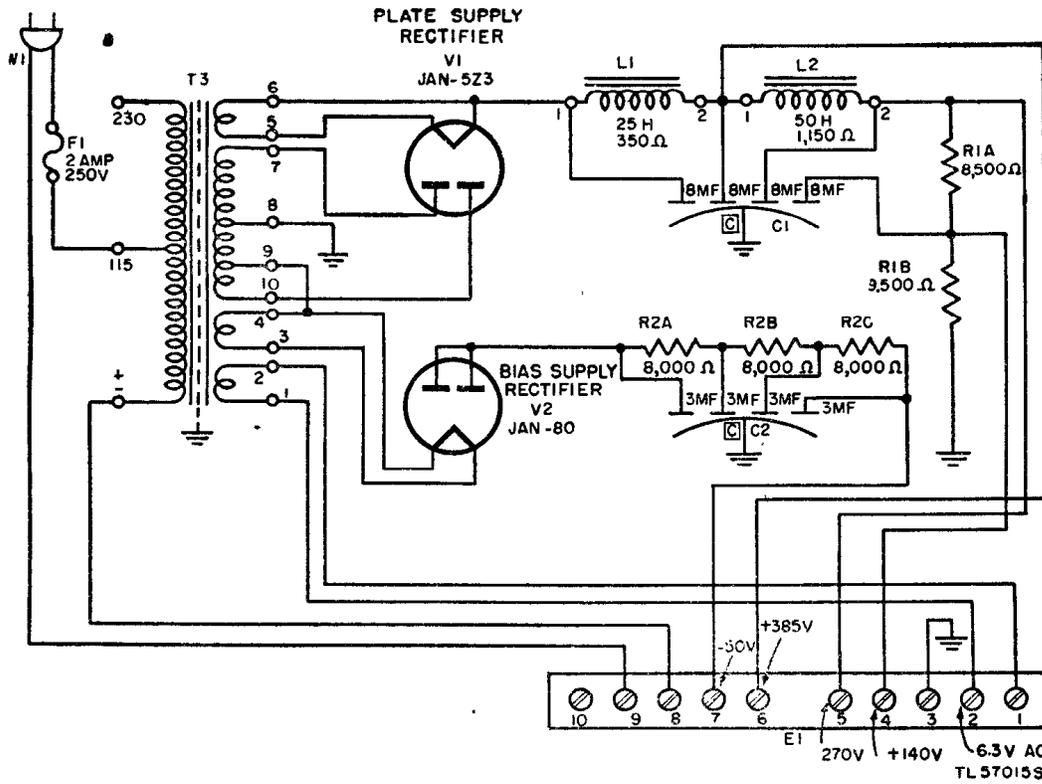


Figure 52. Power Supply Unit RA-91-A, schematic diagram.

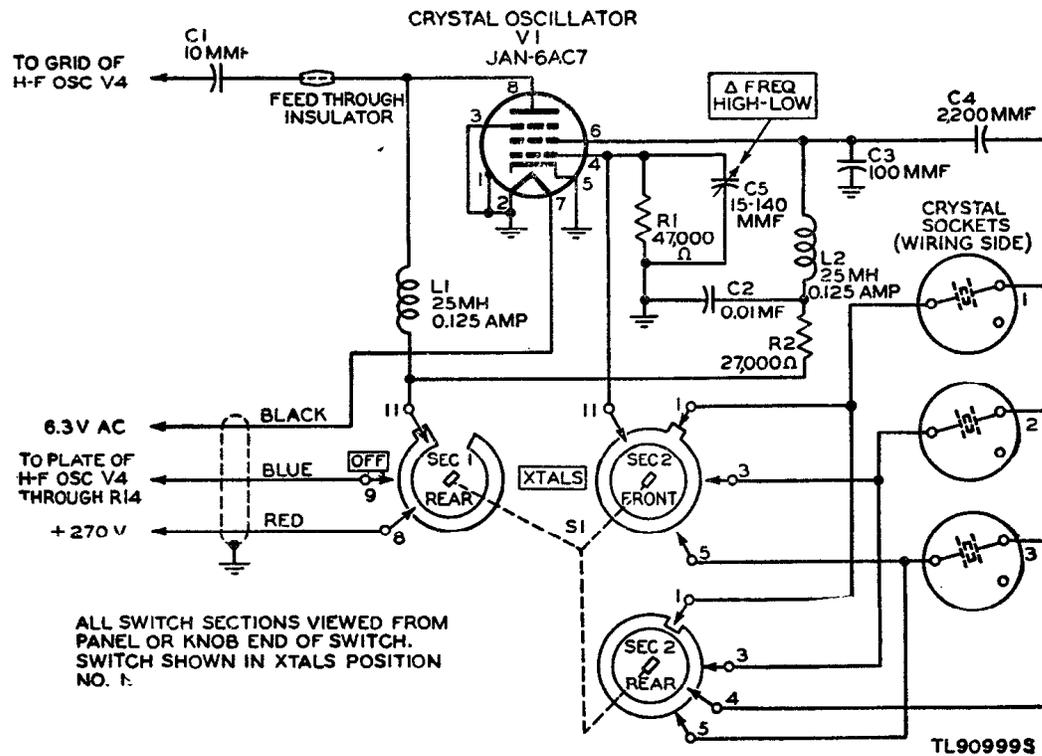
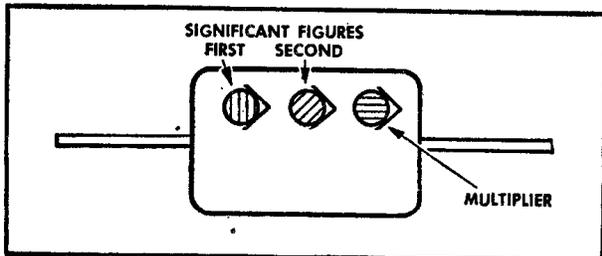


Figure 53. Improvement Kit MC-531, schematic diagram.

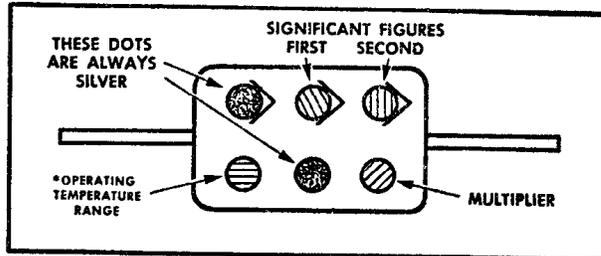
# CAPACITOR COLOR CODES

## RMA 3-DOT COLOR CODE FOR MICA-DIELECTRIC CAPACITORS



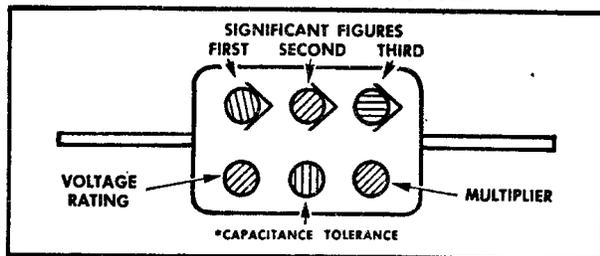
Capacitors marked with this code have a voltage rating of 500 volts.

## JAN 6-DOT COLOR CODE FOR PAPER-DIELECTRIC CAPACITORS

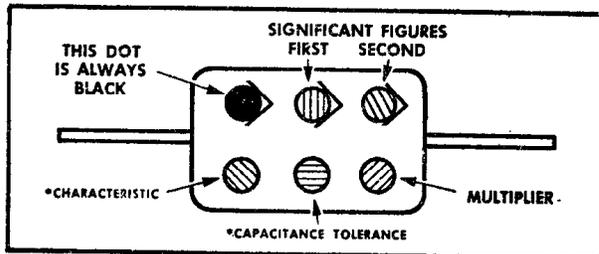


The silver dots serve to identify this marking. For working voltages see JAN type designation code.

## RMA 6-DOT COLOR CODE FOR MICA-DIELECTRIC CAPACITORS

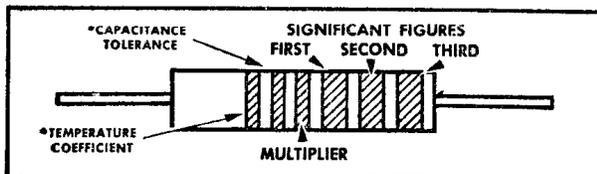


## JAN 6-DOT COLOR CODE FOR MICA-DIELECTRIC CAPACITORS



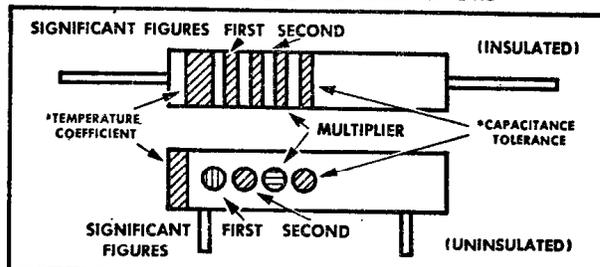
The black dot serves to identify this code. For working voltages see JAN type designation code.

## RMA COLOR CODE FOR TUBULAR CERAMIC-DIELECTRIC CAPACITORS



Capacitors marked with this code have a voltage rating of 500 volts.

## JAN COLOR CODE FOR FIXED CERAMIC-DIELECTRIC CAPACITORS



Capacitors marked with this code have a voltage rating of 500 volts. Either the band or dot code may be used.

RMA Radio Manufacturers Association      JAN: Joint Army-Navy

Note: These color codes give all capacitances in micromicrofarads.

\*Items marked with an asterisk are of interest primarily to depot and higher echelon repair personnel

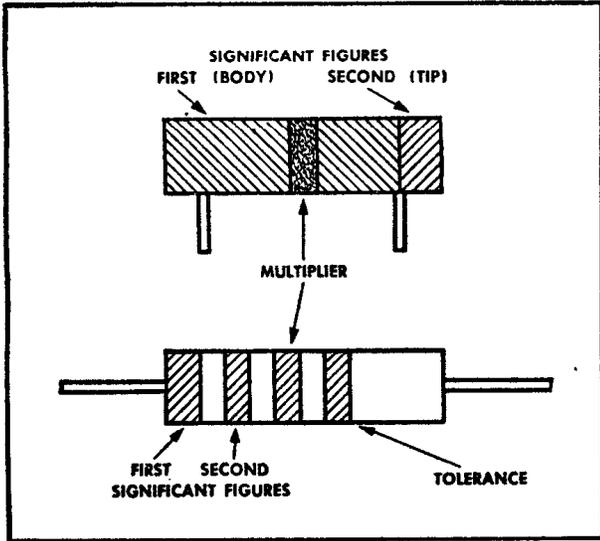
COLOR	SIGNIFICANT FIGURE	MULTIPLIER			RMA VOLTAGE RATING
		RMA MICA-AND CERAMIC-DIELECTRIC	JAN MICA-AND PAPER-DIELECTRIC	JAN CERAMIC-DIELECTRIC	
BLACK	0	1	1	1	
BROWN	1	10	10	10	100
RED	2	100	100	100	200
ORANGE	3	1,000	1,000	1,000	300
YELLOW	4	10,000			400
GREEN	5	100,000			500
BLUE	6	1,000,000			600
VIOLET	7	10,000,000			700
GRAY	8	100,000,000		0.01	800
WHITE	9	1,000,000,000		0.1	900
GOLD		0.1	0.1		1,000
SILVER		0.01	0.01		2,000
NO COLOR					500

TL 13417 A

Figure 54. Capacitor color codes.

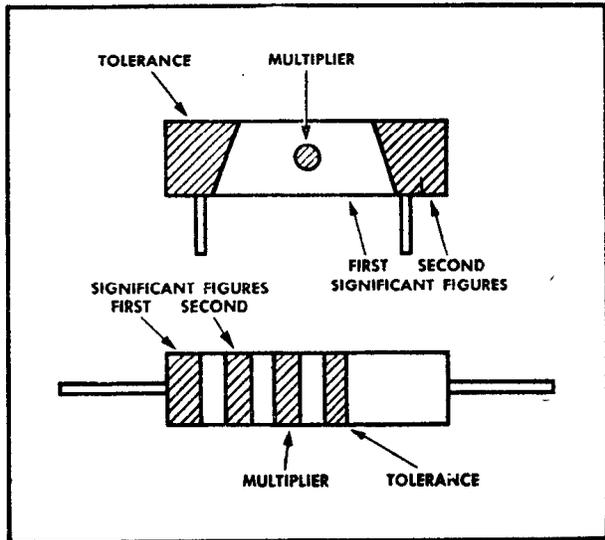
# RESISTOR COLOR CODES

## RMA COLOR CODE FOR FIXED COMPOSITION RESISTORS



Insulated fixed composition resistors with axial leads are designated by a natural tan background color. Non-insulated fixed composition resistors with axial leads are designated by a black background color.

## JAN COLOR CODE FOR FIXED COMPOSITION RESISTORS



Resistors with axial leads are insulated. Resistors with radial leads are uninsulated.

COLOR	SIGNIFICANT FIGURE	MULTIPLIER	TOLERANCE (PERCENT)
BLACK	0	1	
BROWN	1	10	
RED	2	100	
ORANGE	3	1,000	
YELLOW	4	10,000	
GREEN	5	100,000	
BLUE	6	1,000,000	
VIOLET	7	10,000,000*	
GRAY	8	100,000,000*	
WHITE	9	1,000,000,000*	
GOLD		0.1*	5
SILVER		0.01*	10
NO COLOR			20

\*JAN ONLY

Example: A 50,000-ohm resistor with a standard tolerance of 20 percent (no color) would be indicated by a green ring (5), a black ring (0), and an orange ring (000)

RMA: Radio Manufacturers Association  
JAN: Joint Army-Navy

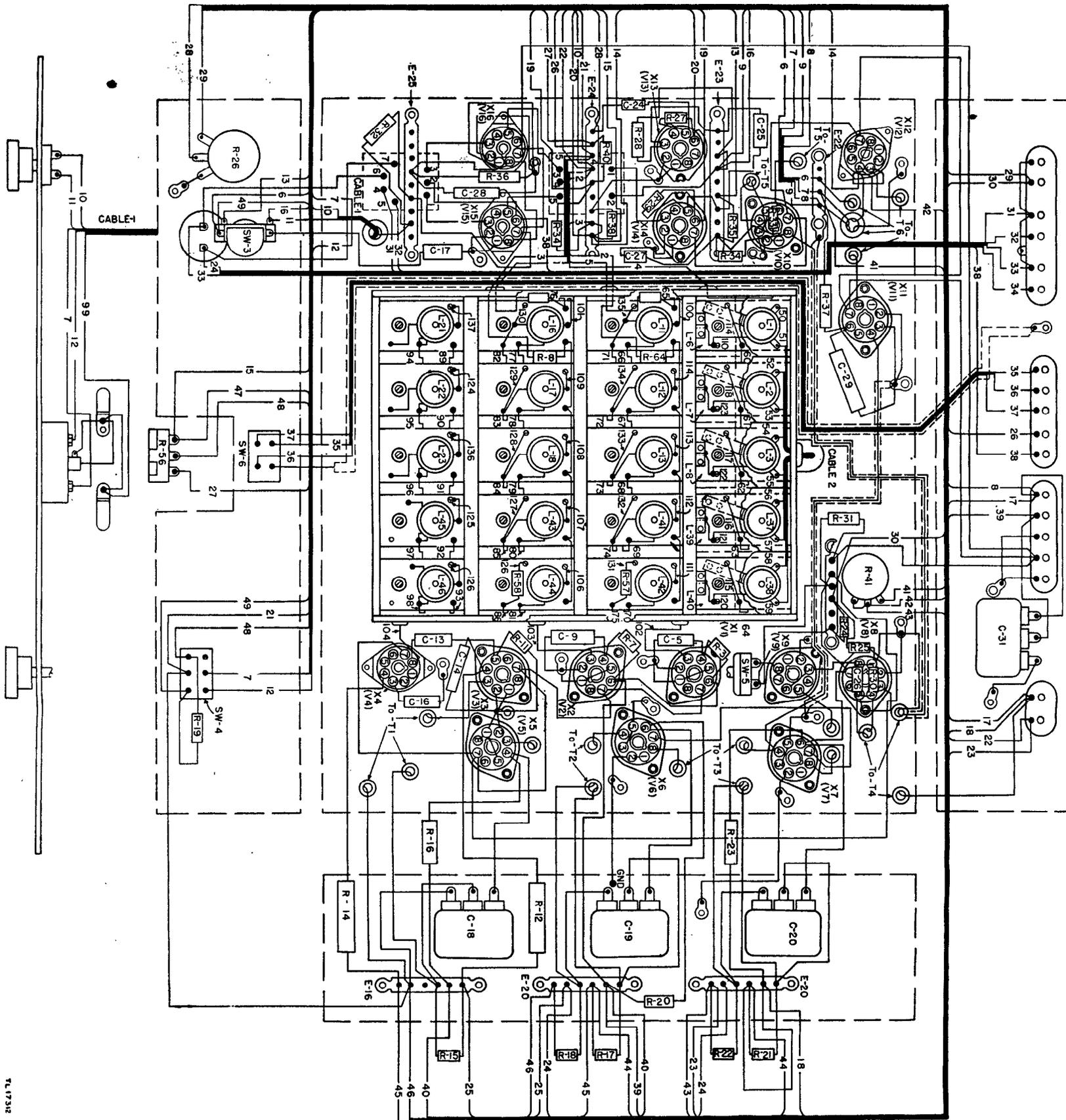
93 12418 A

Figure 55. Resistor color codes.

## INDEX

	<i>Paragraph</i>	<i>Page</i>		<i>Paragraph</i>	<i>Page</i>
Adjustment of dial gearing and friction drive .....	89	62	Noise limiter .....	64	39
Alinement and adjustment .....	93-100	62	Operation of receiver .....	16-19	15
A-v-c circuit .....	96	64	Packaging data .....	5, 6	4
B-f-o circuit .....	97	64	Power supply units:		
Calibration of signal generator .....	94	63	Circuits .....	71	46
High-frequency oscillator calibration .....	98	64	Connections .....	13	9
I-f alinement .....	95	63	Description .....	8	7
L27 alinement .....	100	68	Differences in models .....	70	46
R-f and mixer alinement .....	99	67	Installation .....	12, 13	9
Test instruments .....	93	62	Packaging data .....	5, 6	4
Audio-frequency amplifier .....	67	43	Preparation for use .....	14	12
A-v-c alinement .....	96	64	Technical characteristics .....	2	2
A-v-c circuit .....	65	41	Test .....	82	50
Band spread .....	69	45	Types .....	1	1
Band switching .....	68	45	Preventive maintenance .....	22-49	19
Battery operation .....	72	47	Cabinets, chassis, and mountings ..	37	23
Beat-frequency oscillator .....	66, 97	43, 64	Capacitors .....	25	20
Block diagram of receiver .....	58	33	Checklist .....	49	27
Calibration of signal generator .....	94	63	Coils .....	30	22
Capacitor tests .....	79	49	Cords and cables .....	33	22
Code reception .....	18	15	Coupling shafts and control knobs ..	39	23
Commercial nomenclature .....	10	8	Fuses .....	27	21
Components, table of .....	4	4	Gears .....	40	24
Connections and interconnections .....	13	9	Headset and loudspeaker .....	38	23
Crystal filter .....	61	36	Insulators .....	28	21
Description of power supply unit .....	8	7	Items .....	44-48	24
Description of radio receiver .....	7	7	Jacks and plugs .....	36	23
Detector .....	63	39	Meaning .....	22	10
Dial gearing and friction drive, adjustment .....	89	62	Meter .....	34	22
Differences in models .....	10, 57, 70	8, 33, 46	Pilot lamps .....	35	23
Equipment performance checklist:			Power transformers, filter chokes, and audio transformers .....	41	24
List .....	21	16	Resistors .....	26	21
Purpose and use .....	20	15	Rheostats and potentiometers .....	31	22
Forms .....	App. I	69	Switches .....	29	21
High-frequency oscillator calibration ..	98	64	Techniques .....	23	19
Identification table of replaceable parts ..	App. II	72	Terminal blocks .....	32	22
I-f alinement .....	95	63	Tools and materials .....	43	24
I-f amplifier .....	62	38	Vacuum tubes .....	24	20
Improvement kit MC-531 .....	App. III	88	Radiophone reception .....	17	15
Installation .....	12, 13	9	Radio receiver:		
L27 alinement .....	100	68	Adjustment of dial gearing and friction drive .....	89	62
Lubrication .....	50, 51	27	A-f amplifier .....	67	43
Mixer and h-f oscillator .....	60	35	Alinement and adjustment .....	93-100	62
Mountings FT-509 and FT-510 .....	9	8	A-v-c circuit .....	65	41
			Band spread .....	69	45
			Band switching .....	68	45
			Bands .....	68	45

	<i>Paragraph</i>	<i>Page</i>		<i>Paragraph</i>	<i>Page</i>
Battery operation .....	72	47	R-f and mixer alinement .....	99	67
B-f oscillator .....	66	43	Rustproofing and repainting .....	91	62
Block diagram .....	58	33	Signal substitution .....	85-88	53
Commercial nomenclature .....	10	8	A-f tests .....	86	53
Connections .....	13	9	I-f tests .....	87	56
Controls .....	15	13	R-f tests .....	88	59
Crystal filter .....	61	36	Siting .....	11	9
Description .....	7	7	Supply publications .....	App. I	69
Detector .....	63	39	Technical characteristics .....	2	2
Differences in models .....	10	8	Technical manuals on auxiliary and test equipment .....	App. I	69
Equipment performance checklist...	20, 21	15, 16	Tropicalization .....	53-56	28
I-f amplifier .....	62	38	Moistureproofing and fungiproofing after repairs .....	56	31
Installation .....	12, 13	9	Power supply units .....	55	30
Lubrication .....	50, 51	27	Receivers .....	54	28
Mixer and h-f oscillator .....	60	35	Trouble shooting .....	74-88	48
Noise limiter .....	64	39	A-f tests .....	86	53
Operation .....	16-19	15	Capacitor tests .....	79	49
Packaging data .....	5, 6	4	Chart .....	84	51
Preparation for use .....	14	12	Data .....	74	48
Replacement of tuning dial setscrews	90	62	Equipment performance test .....	83	51
R-f amplifier .....	59	33	I-f tests .....	87	56
Siting .....	11	9	Power supply unit test .....	82	50
Technical characteristics .....	2	2	Precautions .....	77	49
Trouble shooting .....	74-88	48	Replacing parts .....	80	50
Types .....	1	1	R-f tests .....	88	59
Radio sets:			Signal substitution notes .....	85	53
Battery operation .....	72	47	Steps .....	75	48
Commercial nomenclature .....	10	8	Visual inspection .....	81	50
Components .....	4	4	Voltage measurements .....	76	48
Installation .....	12-13	9	Voltmeter loading .....	78	49
Lubrication .....	50-51	27	Unsatisfactory equipment report .....	92	62
Operation .....	16-19	15	Voltmeter loading .....	78	49
Packaging data .....	5, 6	4	Weatherproofing .....	52	28
Preparation for use .....	14	12			
Siting .....	11	9			
Types .....	1	1			
Replacement of tuning dial setscrews ..	90	62			
R-f amplifier .....	59	33			



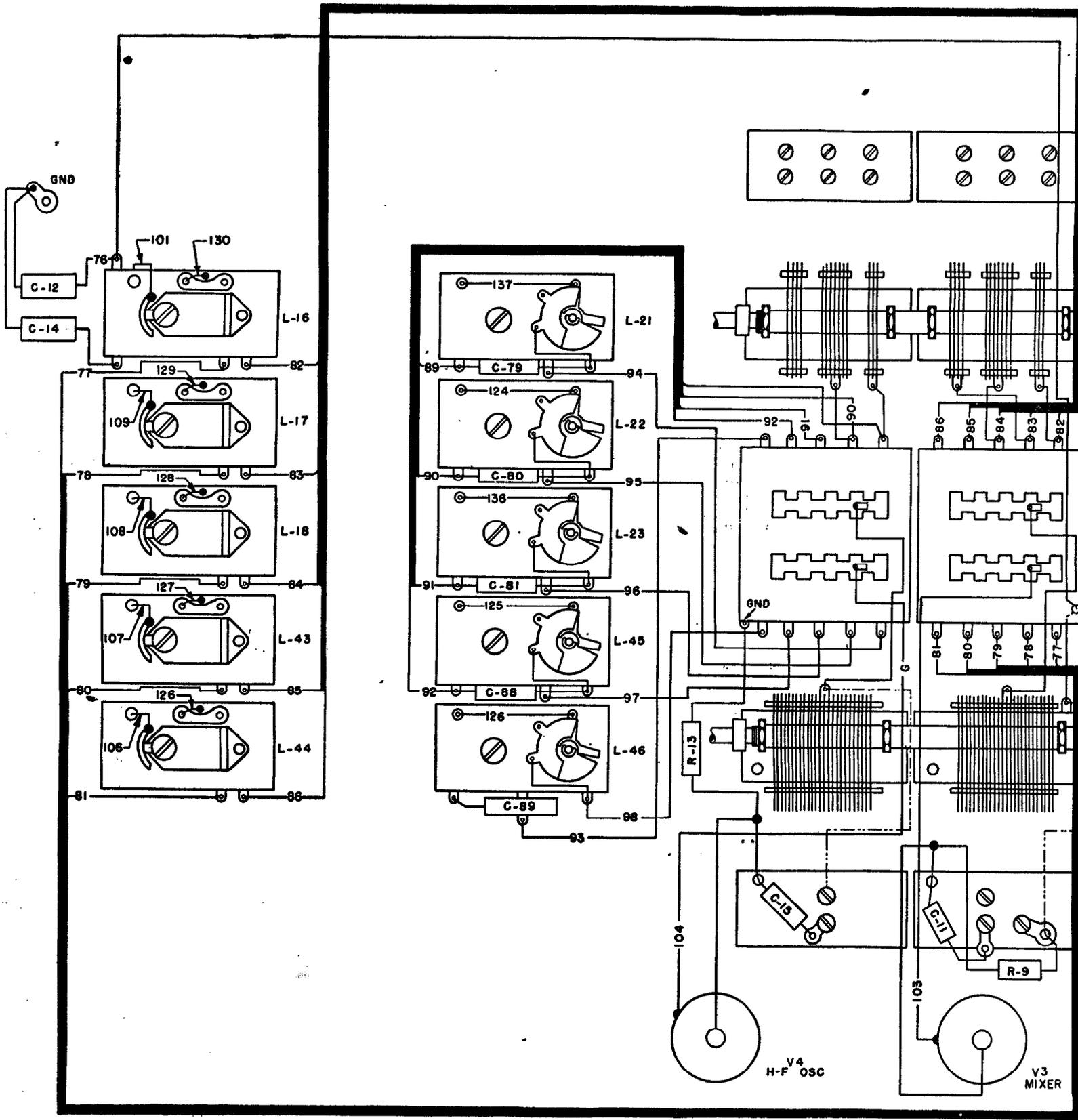


Figure 61.

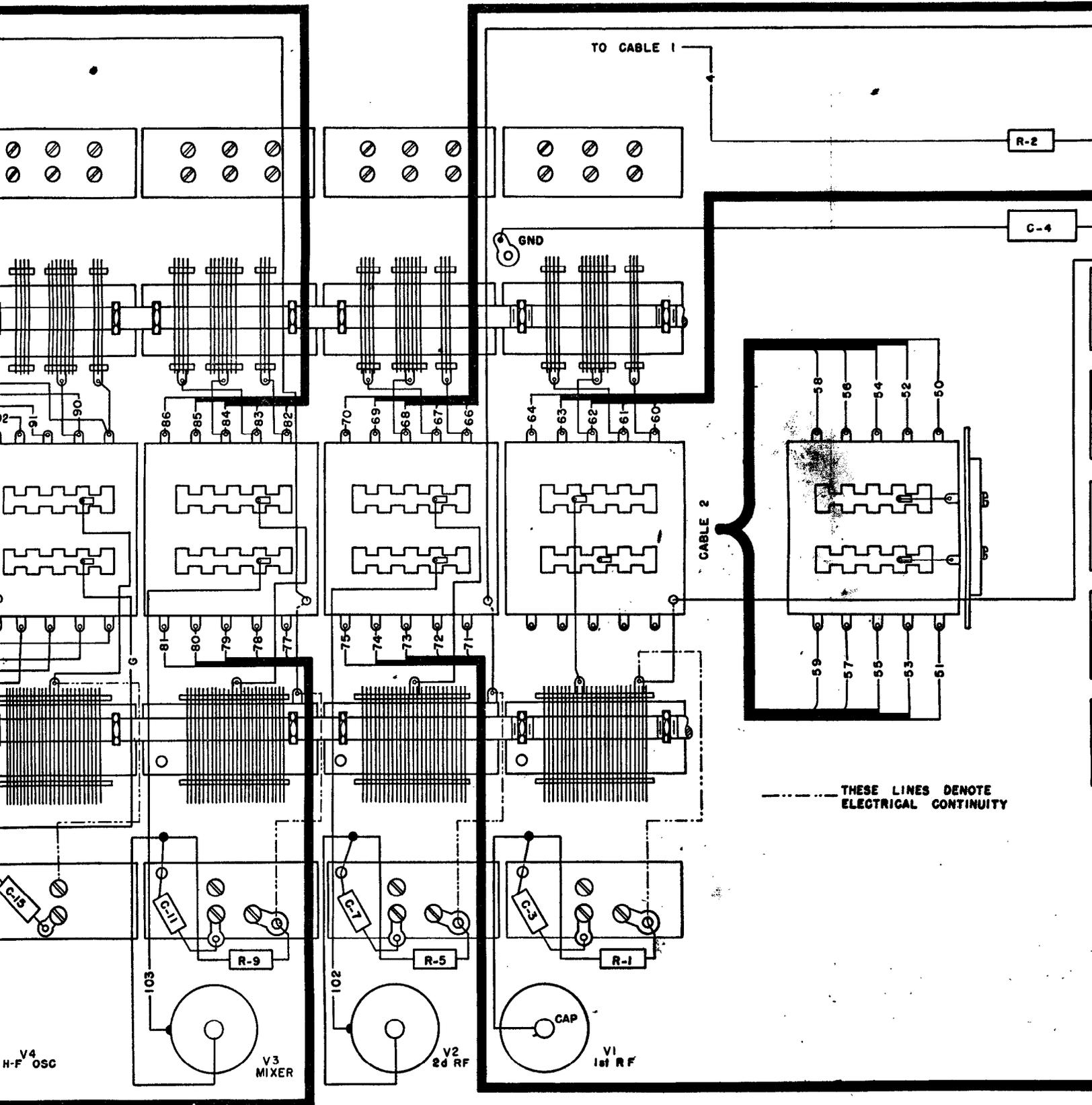
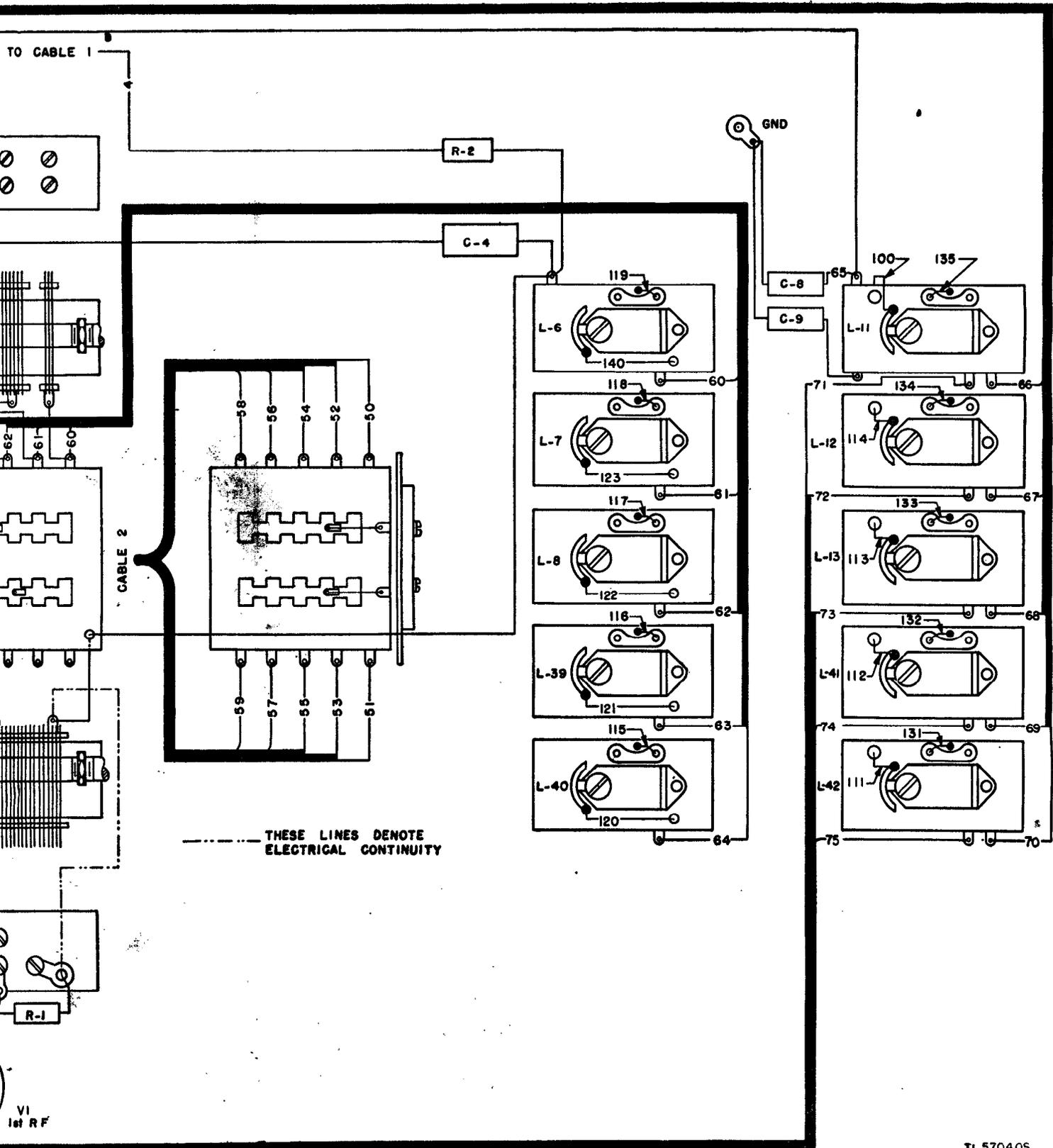


Figure 61. Receiver tuning unit, wiring diagram.



TL570405