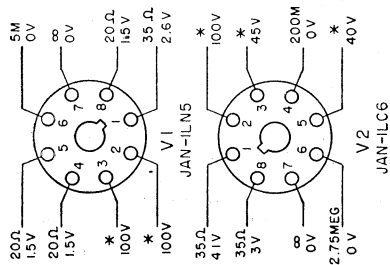


RADIO RECEIVER R-100/URR

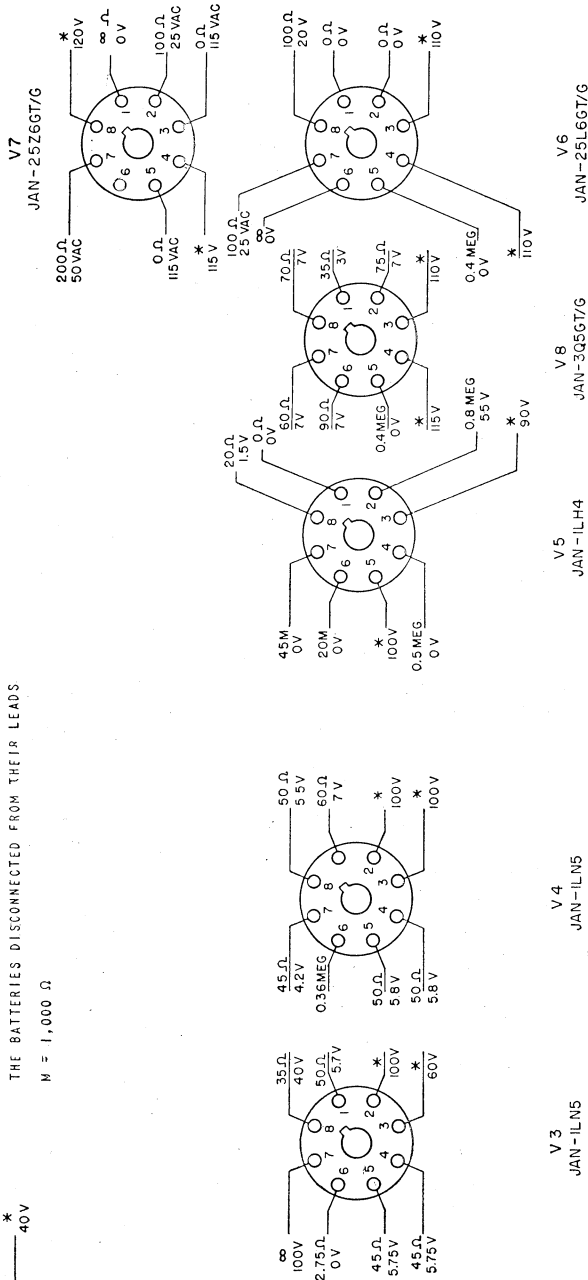
RESISTANCE AND VOLTAGE MEASUREMENTS



NOTES

- * READINGS AT THESE POINTS START AT 25,000 OHMS AND RAISE TO 1,000,000 OHMS AFTER ABOUT 1 MINUTE.
- VOLTAGE AND RESISTANCE READINGS ARE SHOWN FROM TERMINAL INDICATED TO CHASSIS GROUND
- VOLTAGE READINGS ARE SHOWN WITH THE RECEIVER OPERATING FROM A 115 VOLT A-C SUPPLY USING A 1,000 OHM PER VOLT VOLTMETER.
- VOLTAGE READINGS TAKEN WITH THE RECEIVER OPERATING FROM A BATTERY SUPPLY WOULD BE THE SAME EXCEPT THAT THE PLATE AND SCREEN VOLTAGES WOULD BE FROM 10 TO 15 VOLTS LOWER AND THE JAN-25L6GT/G AND THE JAN-25Z6GT/G TUBES WOULD NOT BE OPERATING.
- RESISTANCE READINGS ARE SHOWN AS TAKEN WITH THE TUBES IN THEIR SOCKETS. THE POWER CORD REMOVED FROM THE 115 VOLT SOURCE, AND THE BATTERIES DISCONNECTED FROM THEIR LEADS

M = 1,000 Ω



TL 11666S



RADIO RECEIVER R-100/URR

ALIGNMENT DATA

EQUIPMENT REQUIRED

1. Signal Generator I-72-(*) or equivalent.
2. Frequency Meter Set SCR-211-(*)
3. 50- μf capacitor.
4. Output meter.
5. Headset.
6. Alignment tool.

PROCEDURE

1. Turn on signal generator, frequency meter set, and receiver. Allow them to warm up for 30 minutes before proceeding.
2. Set the receiver AVC-MVC-BFO switch to MVC.
3. Advance the receiver volume control to its maximum position, fully clockwise.

INTERMEDIATE-FREQUENCY AMPLIFIER ALIGNMENT

1. Set the frequency meter to 455 kc.
2. Loosely couple the hot output lead of the signal generator to the input binding post of the frequency meter set. Tune the signal generator to zero-beat with the frequency meter set, while listening in the headset attached to the frequency meter set. The signal generator is now tuned to 455 kc, the intermediate frequency of the receiver.
3. Remove the frequency meter set.
4. Attach the ground lead of the signal generator to the chassis of the receiver, and the hot lead of the signal generator through the 50- μf capacitor to the signal grid of the receiver mixer tube.

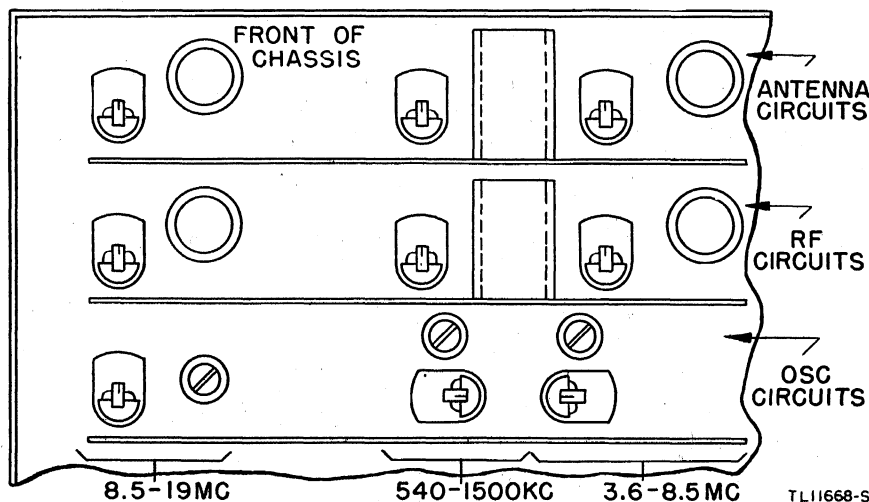
5. Use a 400-cycle modulated output signal from the signal generator.
6. Connect the output meter across the receiver loudspeaker terminals.
7. Adjust the lower and upper i-f trimmer capacitors on transformers T8 and T7, in that order, for maximum output as indicated on the output meter. Use the minimum input signal which will produce approximately two-thirds scale reading on the lowest scale of the meter.
8. Reduce the input signal as necessary during the alignment.

9. Remove the signal generator.

ANTENNA, R-F, AND OSCILLATOR ALIGNMENT

1. Set the receiver band switch to the proper range and the tuning dial to 1.4 mc.
2. Tune the signal generator to 1.4 mc, using the frequency meter set as a frequency standard as outlined above.
3. Connect the ground lead of the signal generator to the chassis of the receiver and the hot lead of the signal generator to the antenna post of the receiver through the 50- μf capacitor. Use a 400-cycle modulated signal from the signal generator.
4. Adjust the appropriate antenna, r-f, and oscillator trimmer capacitors for maximum output as indicated on the meter. Keep the input signal at a minimum for satisfactory indication on the meter.
5. Tune the signal generator and receiver to 600 kc, using the frequency meter set as a frequency standard.

LOCATION OF ALIGNMENT ADJUSTMENTS



RADIO RECEIVER R-100/URR

ALIGNMENT DATA(contd)

- | | |
|---|---|
| <p>6. Adjust the appropriate oscillator padder capacitor for maximum output as indicated on the meter.</p> <p>7. Repeat the adjustments of antenna, r-f, and oscillator trimmer capacitors at 1.4 mc, and of the oscillator padder capacitor at 600 kc until the receiver is accurately calibrated and the output is maximum at these two frequencies.</p> <p>8. Check for approximate calibration of the</p> | <p>receiver at one or two frequencies elsewhere in the same frequency band.</p> <p>9. Repeat the above procedure, aligning the antenna, r-f, and oscillator trimmer capacitors at 8.0 mc and the oscillator padder capacitor at 4.0 mc.</p> <p>10. Repeat the above procedure, aligning the antenna, r-f, and oscillator trimmer capacitors at 18.0 mc and the oscillator padder capacitor at 9.0 mc.</p> |
|---|---|

BATTERY INSTALLATION

BATTERIES BA-203/U and BA-36

The battery compartment was designed specifically to hold two Batteries BA-203/U and two Batteries BA-36. Insert the batteries through the slotted opening in the back of the receiver.

1. First insert two Batteries BA-203/U on the left side (looking toward the rear),
2. Insert two Batteries BA-36 on the right side.
3. Insert the plugs on the battery cable into the Batteries BA-203/U.
4. Connect the wire marked B+ 90 V. to the +45 terminal of the second Battery BA-36.
5. Connect the short jumper wire between the +45 terminal of the first Battery BA-36 and the - terminal of the second Battery BA-36.

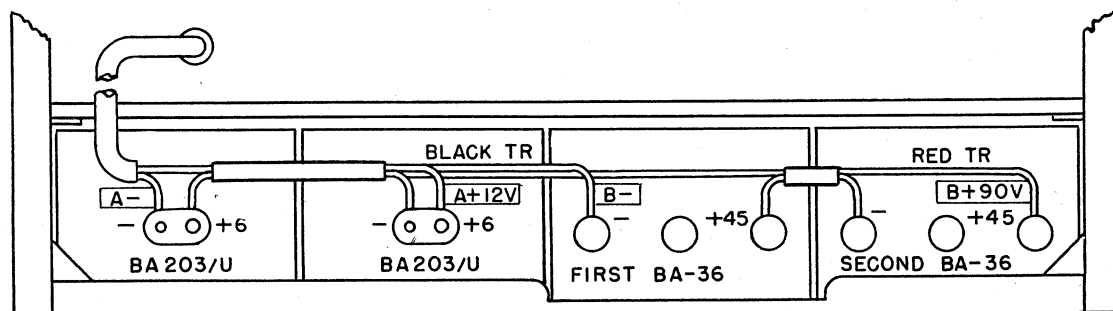
6. Connect the wire marked B- to the - terminal of the first Battery BA-36.
7. Check the connections against the pictorial diagram of battery connections.

OTHER BATTERIES

Any combination of batteries providing 12 volts A supply and 90 volts B supply can be used. If the batteries available will not fit into the battery compartment of the receiver, they can be used externally. The battery cord is of sufficient length to accommodate external batteries.

1. Connect the A- and A+ 12 V. wires to their respective terminals on the assembled A battery.
2. Connect the B- and B+ 90 V. wires to their respective terminals on the assembled B battery.

BATTERY INSTALLATION DIAGRAM



TL11669-5

RADIO RECEIVER R-100/URR

**PARTS LIST
RADIO RECEIVER R-100/URR**

C1--006 MFD., ±20%, 650 V PAPER
 C2--05 MFD., ±20% -10%, 200 V PAPER
 C3--CERAMIC TRIMMER (5-20--MMF)
 C4--CERAMIC TRIMMER (35-55--MMF)
 C5--CERAMIC TRIMMER (35-55--MMF)
 C6A--VARIABLE 3 GANG
 C6B--VARIABLE 3 GANG
 C6C--VARIABLE 3 GANG
 C7--15 MMF., 20% 500 V CERAMIC
 C8--05 MFD., ±20% -10%, 200 V PAPER
 C9--CERAMIC TRIMMER (5-20--MMF)
 C10--CERAMIC TRIMMER (7-35--MMF)
 C11--CERAMIC TRIMMER (35-55--MMF)
 C12--1 MFD., ±40 -10%, 400 V PAPER
 C13--1 MFD., ±40 -10%, 400 V PAPER
 C14--0022 MFD., 10%, 500 V MICA
 C15--150 MMF., 5%, 500 V MICA
 C16--82 MMF., 5%, 500 V MICA
 C17--02 MFD., ±40 -10%, 200 V PAPER
 C18--05 MFD., ±40 -10%, 600 V PAPER
 C19--02 MFD., ±40 -10%, 200 V PAPER
 C20--220 MMF., 20%, 500 V MICA
 C21--1 MFD., ±40 -10%, 400 V PAPER
 C22--51 MMF., 5%, 500 V MICA
 C23--82 MMF., 5%, 500 V MICA
 C24--05 MFD., ±40 -10%, 600 V PAPER
 C25--1 MFD., ±40 -10%, 400 V PAPER
 C26--100 MMF., 20%, 500 V MICA
 C27--100 MMF., 20%, 500 V MICA
 C28--006 MFD., ±20%, 600 V PAPER
 C29--470 MMF., 20%, 500 V MICA
 C30--006 MFD., ±20%, 600 V PAPER
 C31--1 MFD., ±40 -10%, 400 V PAPER
 C33--01 MFD., ±40 -10%, 600 V PAPER
 C34 & C43--40 MFD., 250 V (DUAL ELECTROLYTIC)
 C35--430 MMF., 2%, 500 V MICA
 C36--2,200 MMF., 5%, 500 V MICA
 C37--4,300 MMF., 5%, 500 V MICA
 C38--CERAMIC TRIMMER (7-35--MMF.)
 C39--CERAMIC TRIMMER (5-20--MMF.)
 C40--CERAMIC TRIMMER (5-20--MMF.)
 C41--100 MMF., 20%, 500 V MICA
 C42 & C44--40 MFD., 250 V (DUAL ELECTROLYTIC)
 C45--01 MFD., ±40 -10%, 600 V PAPER
 C46--1000 MFD., 15 WY (ELECTROLYTIC)
 C47--2 MMF., ±15%, 500 V BAKELITE
 C48--006 MFD., ±20%, 600 V PAPER
 C49--1 MFD., ±40 -10%, 400 V PAPER

FS1--FUSE, 1 AMP.
 FS2--FUSE, 1 AMP.

J1--JACK PHONE

L1--CHOKE COIL, LINE FILTER
 L2--CHOKE, R.F.
 L3--SPEAKER, 6" P. M. DYNAMIC

PL1--PLUG, SPEAKER
 PL2--LINE CORD

R2--220 OHMS, 10%, 1/4 W.
 R3--3.3 MEGOHMS, 10%, 1/4 W.
 R4--3.9 MEGOHMS, 10%, 1/4 W.
 R5--220,000 OHMS, 20%, 1/4 W.
 R6--68,000 OHMS, 10%, 1/4 W.

**SIGNAL CORPS
STOCK NO.**

3DA6--55
 3DA50--70
 3D9020V--27
 3D9055V--12
 3D9055V--12
 3DB9402V--2
 3DB9402V--2
 3DK9015--28
 3DA50--90
 3D9020V--27
 3D9035V--36
 3D9055V--12
 3DA100--332
 3DA100--332
 3K302211
 Part of T7
 Part of T7
 3DA20--72
 3DA50--42
 3DA20--73
 3DK9220--3
 3DA100--332
 Part of T8
 Part of T8
 3DA50--42
 3DA100--332
 3DB40--46
 3K2543143
 3K3022242
 3K3543222
 3D9335V--36
 3D9020V--27
 3D9020V--27
 3K2010114
 3DB40--46
 3DA10--124 I
 3DB1000--10
 3D9002--6,2
 3DA6--55
 3DA100--332
 3Z1944
 3Z1944
 ZZ5531.30
 3C375--27
 3C375--22
 6C35--12,1
 2Z7112.13
 3E4142--58
 3RC10AE271K
 3RC10AE335K
 3RC10AE395K
 3RC10AE224M
 3RC10AE683K

R7--1,000 OHMS, 20%, 1/4 W.
 R8--3.3 MEGOHMS, 10%, 1/4 W.
 R9--22,000 OHMS, 10%, 1/4 W.
 R10--3.3 MEGOHMS, 10%, 1/4 W.
 R11--22,000 OHMS, 20%, 1/4 W.
 R12--470,000 OHMS, 20%, 1/4 W.
 R13--1,000 OHMS, 20%, 1/4 W.
 R14--47,000 OHMS, 20%, 1/4 W.
 R15--470,000 OHMS, 20%, 1/4 W.
 R16--330 OHMS, 10%, 1/4 W.
 R17--1 MEGOHM, 20%
 R18--470,000 OHMS, 20%, 1/4 W.
 R19--100,000 OHMS, 20%, 1/4 W.
 R20--470,000 OHMS, 10%
 R21--62 OHMS, 5%
 R22--10 OHMS, 20%
 R23--43 OHMS, 5%
 R25--2,200 OHMS, 10%
 R26--280 OHMS, 5%
 R27--4,700 OHMS, 10%
 R28--820 OHMS, 10%
 R29--330 OHMS, 10%
 R30--27 OHMS, 10%
 R31--12 MEGOHMS, 10%, 1/4 W.

SO1--RECEPTACLE, SPEAKER
 SW1A & B--C & D--SWITCH WAFER
 SW1E & F--SWITCH WAFER
 SW3--SWITCH AC-DC BATTERY
 SW2--SWITCH S.P.S.T. TOGGLE (POWER LINE)
 SW4--SWITCH D.P.S.T.

T1--TRANSFORMER, BAND 1 ANT.
 T2--TRANSFORMER, BAND 2 ANT.
 T3--TRANSFORMER, BAND 3 ANT.
 T4--TRANSFORMER, BAND 1 R.F.
 T5--TRANSFORMER, BAND 2 R.F.
 T6--TRANSFORMER, BAND 3 R.F.
 T7--TRANSFORMER, 1st I.F.
 T8--TRANSFORMER, 2nd I.F.
 T9--TRANSFORMER, SPEAKER OUTPUT
 T10--TRANSFORMER, BAND 1 OSC.
 T11--TRANSFORMER, BAND 2 OSC.
 T12--TRANSFORMER, BAND 3 OSC.

V1, 3 & 4--R.F., 1st & 2nd I.F. JAN--1LH8
 V2--CONVERTER JAN--1LC8
 V3--2nd DETECTOR--1st AUDIO JAN--1LH4
 V5--OUTPUT (POWER LINE) JAN--25L6GT/G
 V7--RECTIFIER JAN--25Z6GT/G
 V8--OUTPUT (BATTERY) JAN--30B6GT/G

MISCELLANEOUS

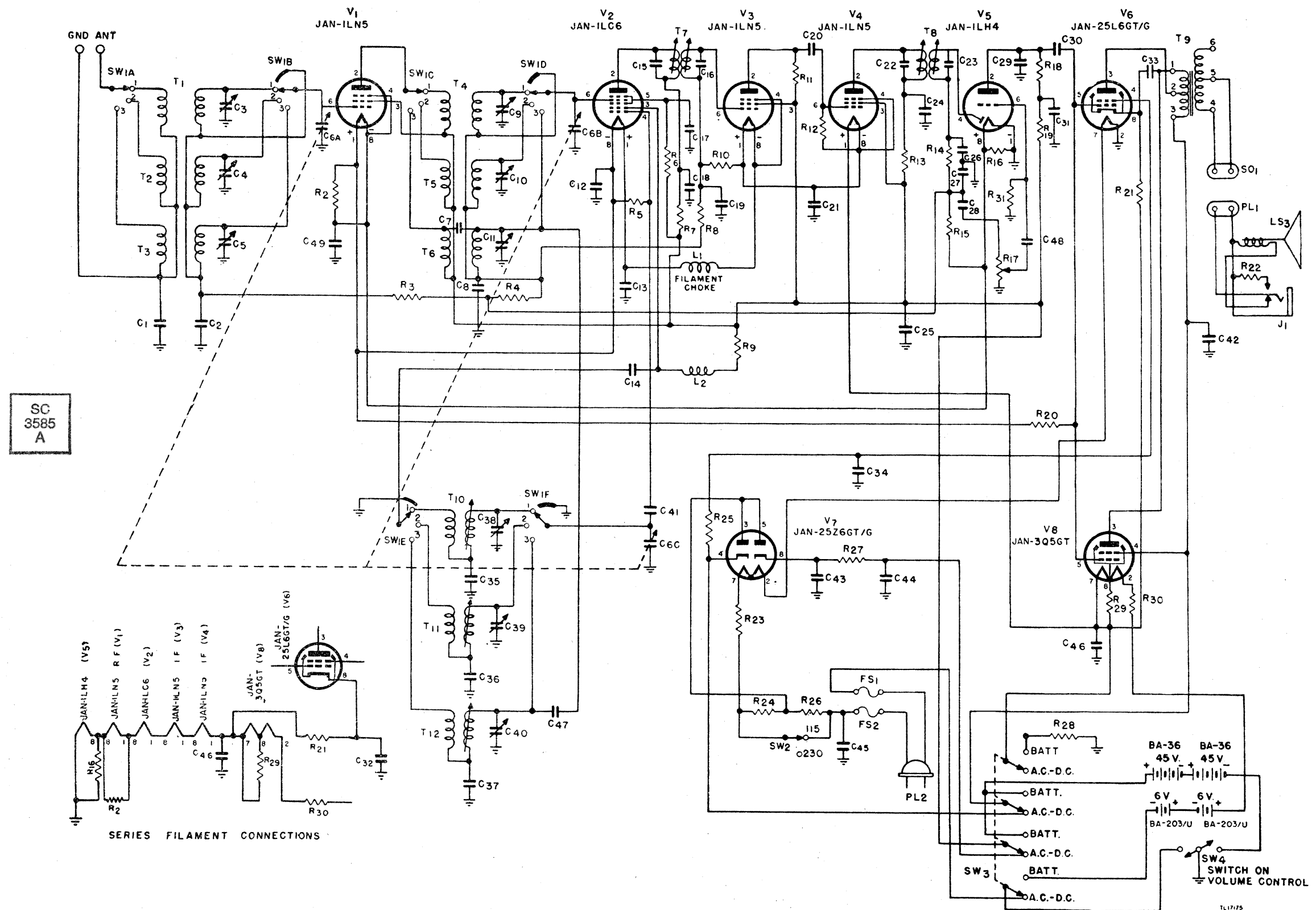
ADAPTER C.B. WOOD No. 2052
 ADAPTER C.D. WOOD No. 3064
 ADAPTER C.D. WOOD No. 2073
 ADAPTER C.D. WOOD No. 2089*
 BINDING, POST MOUNTING BOARD
 BINDING POSTS TM-150
 CHASSIS ANCHORING STUD ASSEMBLY
 CONTROL KNOB FOR C6
 CONTROL KNOB FOR R-17 & SW1
 DIAL CORD
 DIAL POINTER
 DIAL PLATE
 FUSE HOLDER FOR FS1 & FS2

**SIGNAL CORPS
STOCK NO.**

3RC10AE102M
 3RC10AE335K
 3RC10AE223K
 3RC10AE335K
 3RC10AE474M
 3RC10AE102M
 3RC10AE473M
 3RC10AE474M
 3RC10AE331K
 2Z7273--80
 3RC10AE474M
 3RC10AE1045M
 3RC10AE474K
 3RC21AE6205
 3RC31AE100M
 3Z6022--45
 3Z6004C--3
 3RC21AE222K
 3Z6025--4
 3RC31AE472K
 3RC10AE821K
 3RC10AE331K
 3RC10AE270K
 3RC10AE126K
 3Z3043--31
 3Z3901E--11,12
 3Z3903E--11,12
 3Z3925--29,29
 3Z3957--16
 Part of R17
 2C4572/C8
 2C4572/C6
 2C4572/C7
 2C4572/C8
 2C4572/C9
 2Z9641.156
 2Z9641.157
 2Z9632.244
 2C4572/C4
 2C4572/C5
 2C4572/C3
 211LN5
 211LC8
 211LCA
 211LH4
 2125L6GT/G
 2125Z6GT/G
 213Q56GT/G
 6Z7560--5
 2Z303--2
 2Z303--1
 6Z111
 3G1636--36,3
 3Z250
 2Z7091--30
 2Z5822--54
 2Z5822--6
 6Z6936--1
 2Z3263--2
 2Z4100--3
 3Z1939.1

RADIO RECEIVER R-100/URR

SCHEMATIC DIAGRAM



SC
3585
A

SERIES FILAMENT CONNECTIONS