TECHNICAL MANUAL

RADIO RECEIVERS

BC-312,-A,-C,-D,-E,-F,-G,-J,-L,-M,-N,-HX, AND -NX,
BC-342,-A,-C,-D,-F,-J,-L,-M, AND -N,
BC-314,-C,-D,-E,-F, AND -G,
BC-344, AND -D, AND RADIO RECEIVER ASSEMBLIES OA-65/MRC-2, AND OA-65A/MRC-2

CHANGES No. 1

DEPARTMENT OF THE ARMY
WASHINGTON 25, D. C., *2 June 1952*

TM 11-850, 3 September 1946, is changed as follows:

The title of the manual is changed to read: RADIO RECEIVERS BC-312,-A,-C,-D,-E,-F,-G,-J,-L,-M,-N,-HX, AND -NX, BC-342,-A,-C,-D,-F,-J,-L,-M, AND -N, BC-314,-C,-D,-E,-F, AND -G, BC-344, AND -D, **AND RADIO RECEIVER ASSEMBLIES OA-65/MRC-2, AND OA-65A/MRC-2**

1. General

* * * * * * *

c. (Added). Radio Receiver Assembly OA-65(*)/MRC-2—a dual-diversity receiver consisting of Oscillator-Amplifier O-59(*)/MRC, and two modified versions of Radio Receiver BC-342-( )—is described in appendix III.

3. Table of Components

Component	Required number	Height (in.)	Depth (in.)	Length (in.)	Volume (cu. ft.)	Weight (lb.)
*	*	*	*	*	*	*
Radio Receiver BC-342-(*).	1	10	9 1/16	18 1/16	1.0	61.5
Rectifier **RA-20**-(*)						
*	*	*	*	*	*	*
Radio Receiver BC-344-(*).	1	10	9 1/16	18 1/16	1.0	61.5
Rectifier **RA-20**-(*)						
*	*	*	*	*	*	*

* * * * * * *

11. Connections and Interconnections

* * * * * * *

b. Radio Receivers BC–342–(*) *** 60-cycle, a-c power. Insert the power cord plug into the rectifier receptacle at the back of the receiver cabinet **in early model receivers using Rectifier RA-2.0** This receptacle is *** the two screws. **Later model receivers using Rectifiers RA-20-A and RA-20-B have the power cord attached permanently to the rectifier.** Socket SO1 on *** for control purposes.

* * * * * * *

37. Power Transformers, Filter Chokes, and Audio Transformers

Since power transformers *** them is similar.

* * * * * * *

a. Feel (F). As soon as *** for abnormal heating. Power transformer T3 (**T4 in Rectifier RA-20-A and Rectifier RA-20-B**) normally operates at a warm temperature. Feel for abnormal *** to avoid burns.

b. Inspect (I). Inspect power transformer T3 (**T4 in Rectifier RA-20-A and Rectifier RA-20-B**), filter choke L35 (**in Rectifier RA-20**), and audio transformers T1 and T2, for signs of blistering, bulging, or leakage of tar or insulating compounds. Inspect for external *** action or corrosion.

* * * * * * *

44. Item 5, Rectifier RA–20–(*)

OPERATIONS

* * * * * * *

ITC	Fuse (**RA-20 only**).
ITC	Capacitors.
ITC	Switch (**RA-20 only**).

* * * * * * *

IC	Power socket (**RA-20 only**).

* * * * * * *

45. Preventive Maintenance Check List

The following check *** and adjusted (A).

Item	Operations	Item	When performed				Echelon
			Daily	Weekly	Monthly	Yearly	
*	*		*	*	*	*	*
5	ITC[2]	Rectifier **RA–20–(*)**		X			1st

* * * * * * *

51. Treating Radio Receivers

* * * * * * *

c. Disassembly of Radio Receivers BC-342-(*) and BC-344-(*).

* * * * * * *

(2) Unsolder the six leads from the terminal strip adjacent to Rectifier **RA-20-(*)** and remove the rectifier.

* * * * * * *

Figure 17. Receiver simplified block diagram. ***Rectifier V10 is tube 5Y3G/GT type in Rectifier RA-20-A and RA-20-B.***

56. Mixer and R-F Oscillator Stages

a. Radio Receivers BC-312-(*) and BC-342-(*).

* * * * * * *

(3) Plate voltage for *** ground capacitor C83. **The oscillator plate voltage is regulated by a voltage-regulator tube in receivers using Rectifiers RA-20-A and RA-20-B.** Cathode bias for *** grid return resistor.

* * * * * * *

63. Rectifier RA-20-(*)

(Superseded)

a. General. Rectifier RA-20-(*) (figs. 70, 70.1, 71, and 71.1) used with Radio Receivers BC-342-(*) and BC-344-(*), operates from a 110- to 120-volt, a-c supply and produces the required filament and plate voltage for the receiver circuits. The rectifier is secured to the under side of the receiver chassis in the same manner as the dynamotor in the battery operated models. Under full load conditions the rectifier draws approximately .7 ampere at 120 volts ac with d-c output of approximately 95 milliamperes at 260 volts.

b. Rectifier RA-20. In Rectifier RA-20 (fig. 32) a type 5W4 tube (V10) is used in a full-wave rectifier circuit and the resulting rectified voltage is filtered by choke L35 and capacitors C89 and C90. Resistor R40 functions as a bleeder resistor. Capacitors C104 and C105 (shown dotted in fig. 32) have been added to Rectifier RA-20 in later procurements of Radio Receivers BC-342-N and BC-344-D. These capacitors prevent the oscillator voltage from appearing on the a-c line and causing interference between receivers operating on a common a-c line. When switch SW13 is closed, the receiver may be turned on or off by means of the OFF-M.V.C.-A.V.C. switch.

c. Rectifier RA-20-A. Rectifier RA-20-A (fig. 32.1) is a regulated power supply. The rectifier incorporates a hermetically sealed transformer and choke in a single case designed to protect these components when they are operating in extremely humid climates. Rectifier tube type 5Y3 (V10) is used in a full-wave rectifier circuit and the resulting voltage is filtered by the choke (within transformer T4)

and the dual section capacitor C110. Resistor R58 connected across the 250-volt supply functions as a bleeder. Voltage regulator tube type OA2 (V11), included in the rectifier circuit in series with 4500-ohm resistor R59, provides a regulated 150-volt supply for the plate of the h-f oscillator, the screen of the mixer, and, when the c-w oscillator switch is in the ON position, for the plate of the c-w oscillator. A spare dual capacitor C111 is provided with the rectifier and is connected across the 250-volt supply in series with resistor R57 (fig. 32.1). In this manner a forming potential is maintained so that the spare may be immediately substituted for the filter capacitor if necessary. Additional filtering action may be obtained by short-circuiting resistor R57.

d. Rectifier RA-20-B. Rectifiers RA-20-B and RA-20-A are similar in design with the exception of a few components. In Rectifier RA-20-B, resistor R59 is 2500 ohms, the choke is 13.1 henrys, and the leads shown as yellow are orange (fig. 32.1).

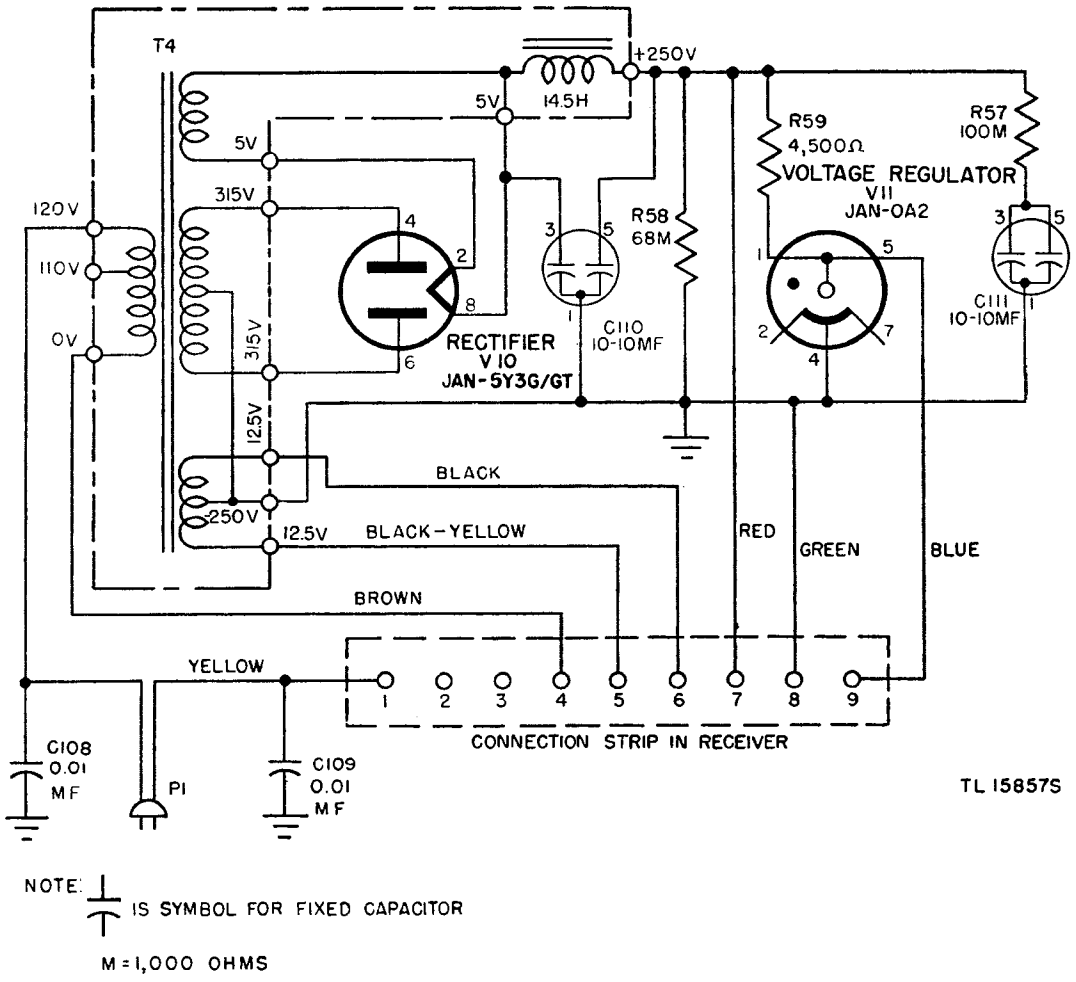

Figure 32.1 (Added). *Rectifier RA-20-A, schematic diagram.*

64. Tube Heater Circuits

All receiver tubes except the audio amplifier tube (Tube JAN–12A6) in Radio Receiver BC–312–(*)X and the rectifier tube (Tube JAN–5W4) in Rectifier RA–20 (**Tube 5Y3G/GT type in Rectifiers RA-20-A and RA-20-B**), require a heater voltage of approximately 6 volts per tube. Tube JAN–12A6 and Tube JAN–5W4 (**5Y3G/GT in Rectifiers RA-20-A and RA-20-B**) require 12.6 and 5 volts, respectively. To permit operation *** (See fig. 80).

73. Voltage and Resistance Charts

The voltage and *** from their sockets. When measuring resistances on Radio Receiver BC–342–(*), disconnect the red wire leading from Rectifier **RA-20-**(*) to terminal 7 on the group-6 terminal board.

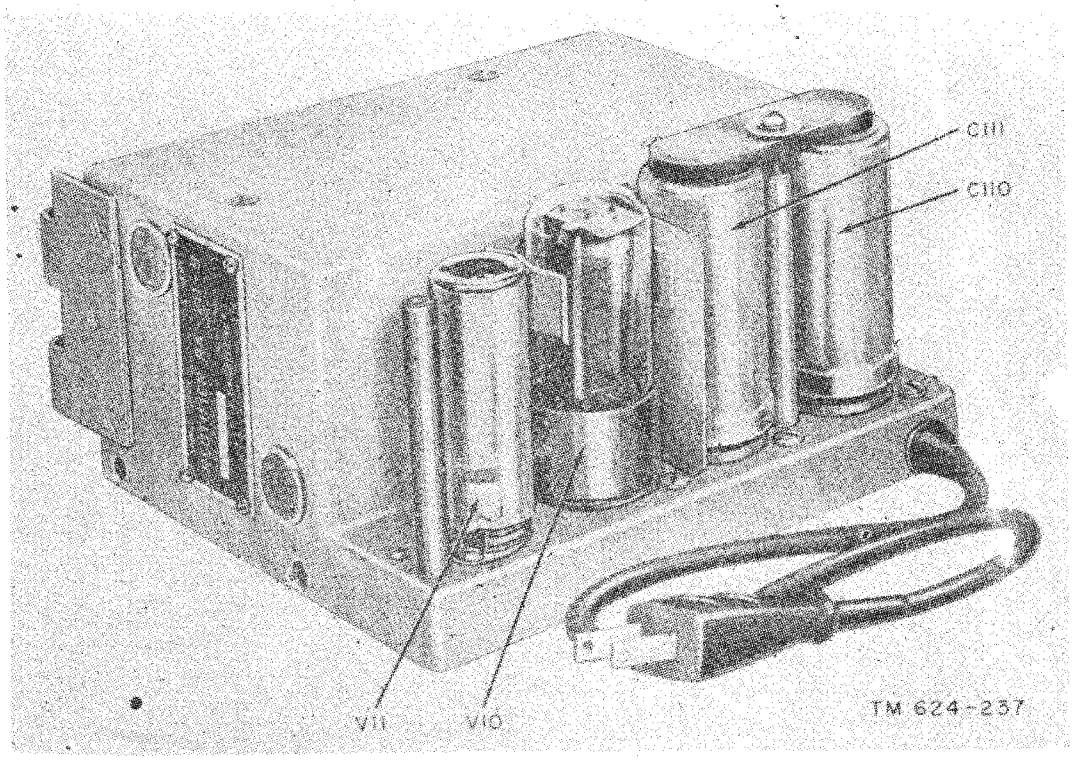

Figure 70.1 (Added). *Rectifier RA–20–B, top view.*

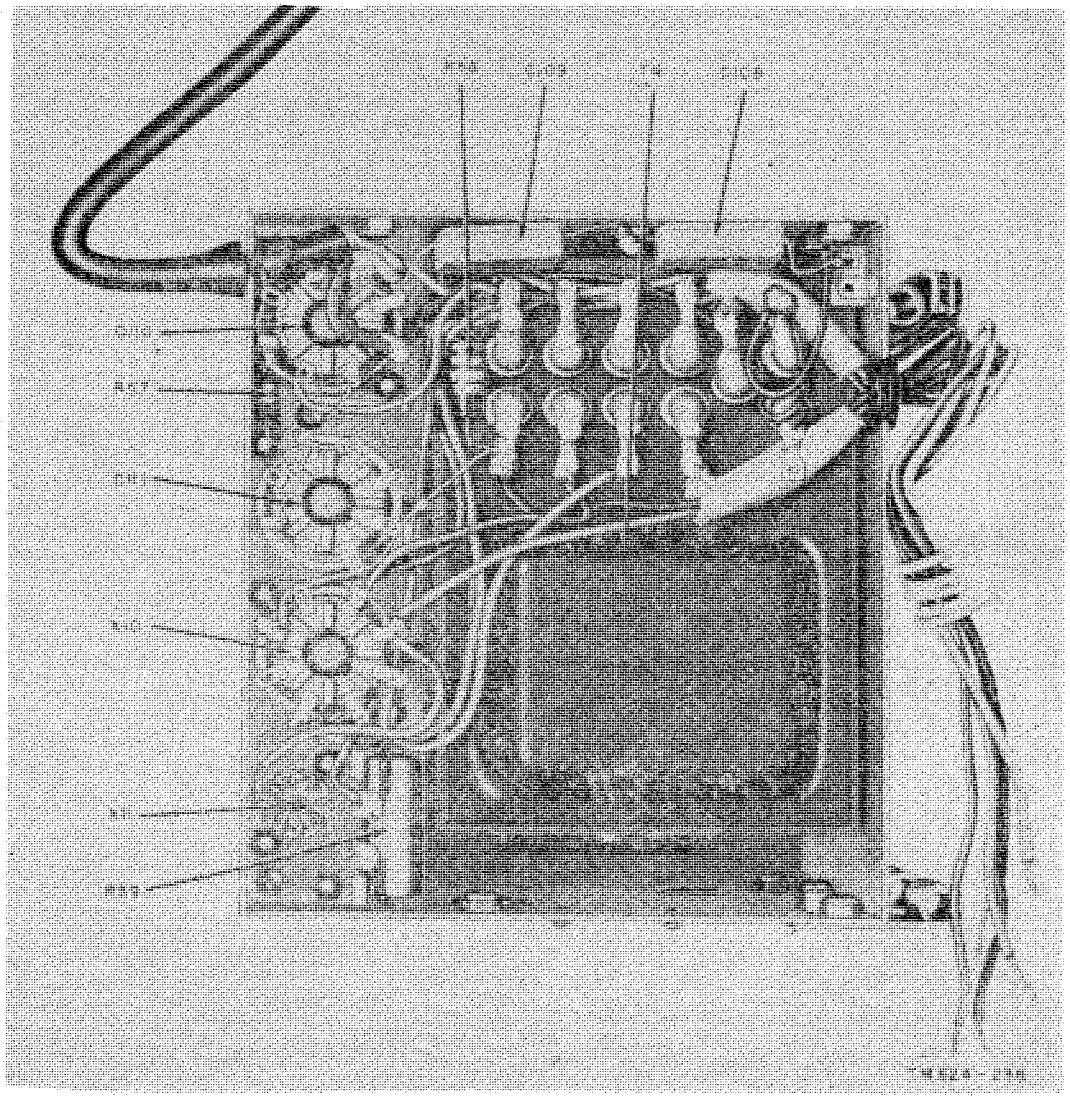

Figure 71.1 (Added). *Rectifier RA–20–B, bottom view.*

APPENDIX I
MAINTENANCE PARTS
FOR RADIO RECEIVERS BC–312(*), BC–342–(*), BC–314–(*), AND BC–344–(*)

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2. List of Maintenance Parts

The following list *** third-echelon maintenance parts:

* * * * * * *

c. (Superseded) *Identification Table of Parts for Rectifiers RA–20, RA–20–A, and RA–20–B.*

Note.—Asterisk (*) in Model Columns indicates units in which parts are used.

Ref symbol	Models			Name of part and description	Function of part	Signal Corps stock No.
	RA–20	RA–20–A	RA–20–B			
				RECTIFIER RA–20: electronic; output 250 v DC, 100 ma, 12.5 v AC, 3 amp and 5 v AC, 2 amp; input 110/120 v AC, 50–60 cyc, single ph; 7 7/16″ lg x 6 57/64″ wd x 5 1/32″ h o/a; 5W4 rectifier tube; full-wave rectification; incl plug-in filter.	Supplies operating voltages to radio receivers.	2Z7512
				RECTIFIERS RA–20–A, RA–20–B: electronic; full-wave; output 250 v DC, 100 ma; 12.5 v AC, 3 amp; 5 v AC, 2 amp; 150 v DC, 20 ma; input 110–120 v, 60 cyc, single ph; 5 5/16″ lg x 6 7/16″ wd x 3 3/16″ h o/a; rectifier and voltage regulator tube.	Supply operating voltages to radio receivers.	2Z7320A
				TECHNICAL MANUAL TM 11–850	Describes radio receivers	(Order through AGO channels.)
		(*)	(*)	BOARD, terminal: 2 solder lug type term; 1 1/2″ lg x 7/16″ wd x 45/64″ h; S. M. A. Co. part #TBX181.	Receiver power supply interconnections.	3Z770–2.116
		(*)		CABLE, power: Cordage CO–144; Underwriters type S; two #18 AWG stranded cond; rc 1/4″ OD; Sig C spec #71–684.	A-c power cable	3E2144
			(*)	CABLE ASSEMBLY, power: type SJ cordage; rc; 78″ lg; 2 cond; w/molded male connector, bayonet plug, spec #2348 one end; bare leads w/molded strain relief other end; Mines Equip #S2232X2.	Power cable	3E7350–1.78
	(*)			CABLE ASSEMBLY, power: Sig Cord CD–370; two #16 AWG stranded cond; 72″ lg excluding term.	Power cable	3E1370

C108, C109		(*)	(*)	CAPACITOR, fixed: mica; JAN type CM40B103K; 10,000 $\mu\mu$f $\pm$10%; 300 v DC; body dimen 1 1/32" lg x 41/64" wd x 11/32" h.	Line filters	3K4010321
C89, C90	(*)			CAPACITOR, fixed: electrolytic; 2 sect.; 10 μf ea sect.; 450 v DC; JAN type CE42F100R.	High voltage filter	3DB10–168
C110, C111		(*)	(*)	CAPACITOR, fixed: electrolytic; JAN type CE52F-100R; 2 sect.; 10–10 μf; 450 v DC; body dimen 1 1/32" lg x 1 1/4" d (plug-in type).	C110: High-voltage filter C111: Spare high-voltage filter.	3DB10–172
		(*)	(*)	CLAMP, ELECTRICAL: capacitor clamp; 2 1/2" lg x 13/16" wd x 3/16" h; S. M. A. Co. part #CCX174.	Clamp for capacitors C110 and C111.	2Z2642.593
P1		(*)		CONNECTOR, male contact: 2 flat parallel blade-type cont; Hubbell #7057.	A-c line plug	6Z1727
SO2	(*)			CONNECTOR, receptacle: 2 flat parallel male cont, straight type.	A-c power input	6Z7589
F3	(*)			FUSE FU–27: cartridge; 2 amp	A-c line fuse	3Z1927
	(*)			HOLDER, fuse: extractor post type; accom one, 1 1/4" lg x 1/4" d, cartridge fuse.	Holder for line fuse	3Z3275
		(*)	(*)	POST, supporting: for capacitor clamp; 2 7/16" lg x 5/16" dia; S. M. A. Co. part #SLX514A.	Support for capacitor clamp	2Z7259–160
L35	(*)			REACTOR: coil C227; 14.5 hy $\pm$10%; 85 ma; 490 ohms $\pm$10% DC resistance; open-frame construction.	Filter choke for high-voltage	3C227
R59			(*)	RESISTOR, fixed: wire-wound; 2500 ohms $\pm$5%; 5 w; 1 3/8" lg x 7/8" dia; JAN type RW55J252.	Voltage dropping resistor for V11.	3RW26724
R59		(*)		RESISTOR, fixed: wire-wound; 4500 ohms $\pm$5%; 5 w; 1 7/32" lg x 7/16" to 5/8" d; Sprague Koolohm #5KT.	Voltage dropping resistor for V11.	3Z6450–7
R40	(*)			RESISTOR, fixed: comp; 100,000 ohms $\pm$5%; 2 w; JAN type RC40BF623J.	Bleeder for high-voltage	3RC40BF623J
R58		(*)	(*)	RESISTOR, fixed: comp; 68,000 ohms $\pm$5%; 2 w; max body dimen 1.41" lg x .405" d; JAN type RC40BF683J	Bleeder	3RC40BF683J

c. (Superseded) *Identification Table of Parts for Rectifiers RA-20, RA-20-A, and RA-20-B* (continued)

Ref symbol	Models			Name of part and description	Function of part	Signal Corps stock No.
	RA-20	RA-20-A	RA-20-B			
R57		(*)	(*)	RESISTOR, fixed: comp; 100,000 ohms ±10%; 1 w; max body dimen .750″ lg x .280″ d; JAN type RC30BF104K.	Maintains forming potential on C111.	3RC30BF104K
		(*)	(*)	SHIELD, tube: bayonet-type mtg; .810″ ID x .930″ max OD x 2.250″ h.	Shield for V11	2Z8304.172
		(*)	(*)	SOCKET, tube: 7 cont miniature; type SO10M; bakelite 1⅛″ lg x .900″ wd.	Socket for V11	2Z8677.94
	(*)	(*)	(*)	SOCKET, tube: octal; 1 piece, under-chassis mtg; type TSB8T101.	Socket for V10, C110, and C111	2Z8678.326
SW13	(*)			SWITCH SW 105: toggle; SPST	A-c power switch	3Z8105
T3	(*)			TRANSFORMER C228: power; fil and plate type; input 110–120 v, 60 cyc; secd #1, 600 v, ct at 100 ma, secd #2, 5 v at 2 amp, secd #3, 12.5 v min 13.5 v max, ct at 2 amp, secd #4, 12.5 v at 3 amp; incl metal case.	Power transformer	2Z9828
T4		(*)	(*)	TRANSFORMER, power: fil plate; incl filter choke; pri term. #9, 10, and 11; 110/120 v, 60 cyc; secd #1 (3–4) 600 v, 100 ma DC, ct; secd #2 (5–6) 5 v AC, 2 amp; secd #3 (7–18) 12.5 v AC, 2 amp, ct; (5–2) choke 14.5 hy, 100 ma DC, 400 ohms DC resistance; hs metal case; 3″ h x 5 5/16″ lg x 3⅝″ wd o/a; Chi Trans #T–1A151.	Power transformer	2Z9611.425
V10	(*)			TUBE, electron: JAN type 5W4	Rectifier	2J5W4
V10		(*)	(*)	TUBE, electron: JAN type 5Y3GT	Rectifier	2J5Y3GT
V11		(*)	(*)	TUBE, electron: JAN type OA2	Voltage regulator	2JOA2

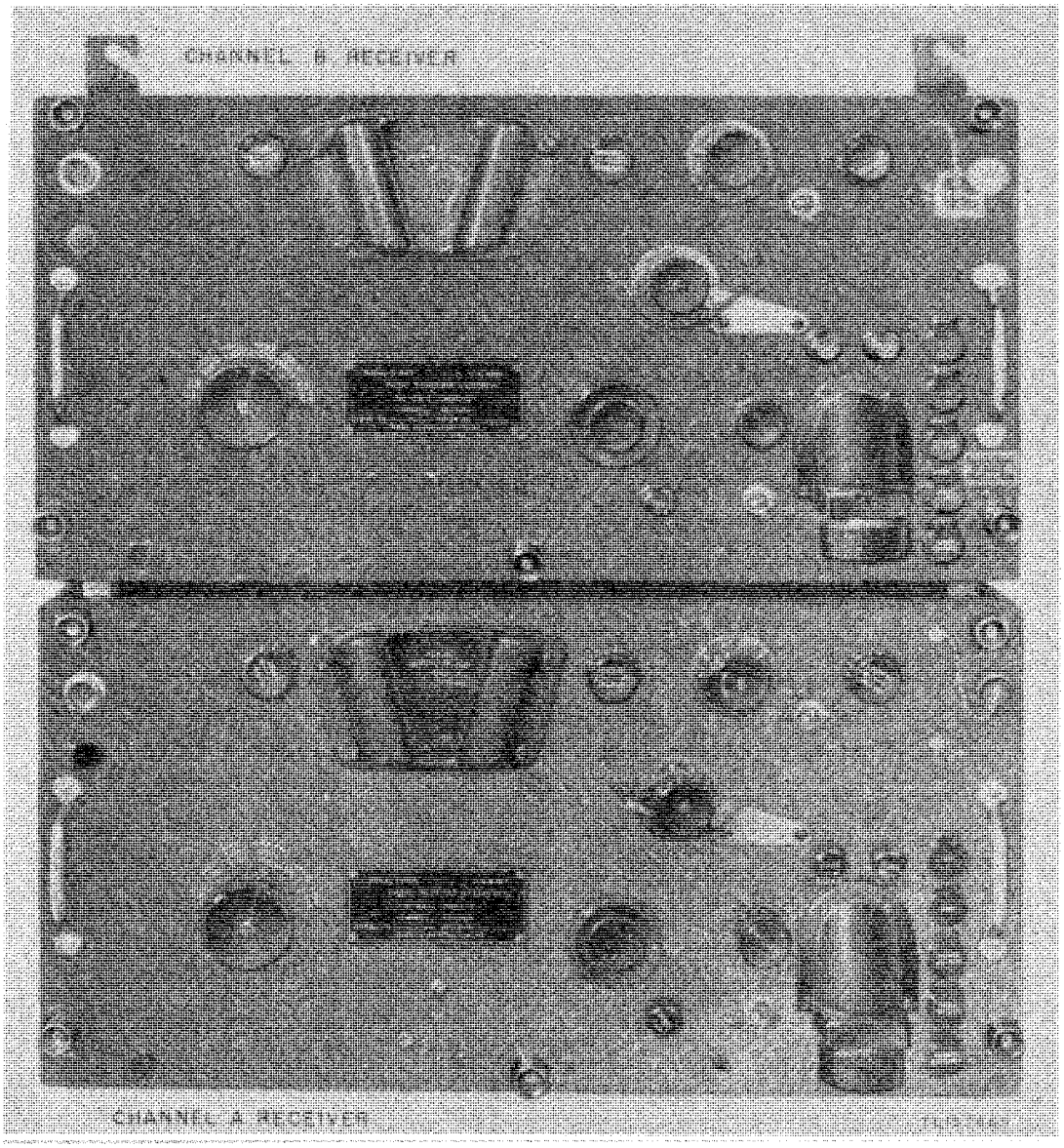

Figure 81 (Added). *Radio Receiver Assembly OA–65(*)/MRC–2, view of control panel.*

APPENDIX III
RADIO RECEIVER ASSEMBLY OA–65/MRC–2, AND OA–65(A)/MRC–2

(Added)

1. General

Radio Receiver Assembly OA–65(*)/MRC–2 (fig. 81) consists of an oscillator coupling amplifier and two receivers which are modified versions of Radio Receiver BC–342–( ). The modifications are specifically designed to facilitate the use of these receivers in a dual-diversity reception circuit with associated radio teletype equipment in Radio Set AN/MRC–2(*) (TM 11–624). In one receiver the h-f oscillator is modified to serve as the h-f oscillator in both receivers. This receiver is called the Channel A Receiver. The other receiver has the h-f oscillator tube removed and receives r-f oscillator voltage from the Channel A Receiver. This receiver is called the Channel B Receiver. The Channel B Receiver is fastened securely to and located above the Channel A Receiver. For theory of operation, other than the material described below, refer to section X of the manual. Figures 93—94 and 95—96 are complete schematic diagrams of the Channel A Receiver and the Channel B Receiver respectively.

2. Channel A Receiver

a. Modification of H-F Oscillator Stage. The frequency stability of the h-f oscillator stage, a type 6J5 tube (V4), has been improved by the modifications shown by the solid lines in figure 82. The h-f oscillator, a type 6C5 tube, has been replaced by a type 6J5 tube. The variable grid-tuning capacitors connected across the coils on each band have been replaced with smaller variable capacitors of from 3 to 20 $\mu\mu$f. This reduced capacity has been offset by the addition of fixed grid-tuning capacitors C104 (25 $\mu\mu$f), C105 (50 $\mu\mu$f), C106 (25 $\mu\mu$f), and C107 (25 $\mu\mu$f) across the grid coils of bands B, C, E, and F, respectively. In Radio Receiver Assembly OA–65/MRC–2, the capacitors have zero temperature coefficients; in Radio Receiver Assembly OA–65A/MRC–2, the capacitors are temperature compensating types. The oscillator coils have been rewound to match the new circuit constants. Negative temperature coefficient capacitors C114 (5$\mu\mu$f) and C118 (5 $\mu\mu$f) are connected from the grid of the oscillator tube to ground to compensate for variations in the grid circuit with temperature fluctuations. Capacitors C88 (in OA–

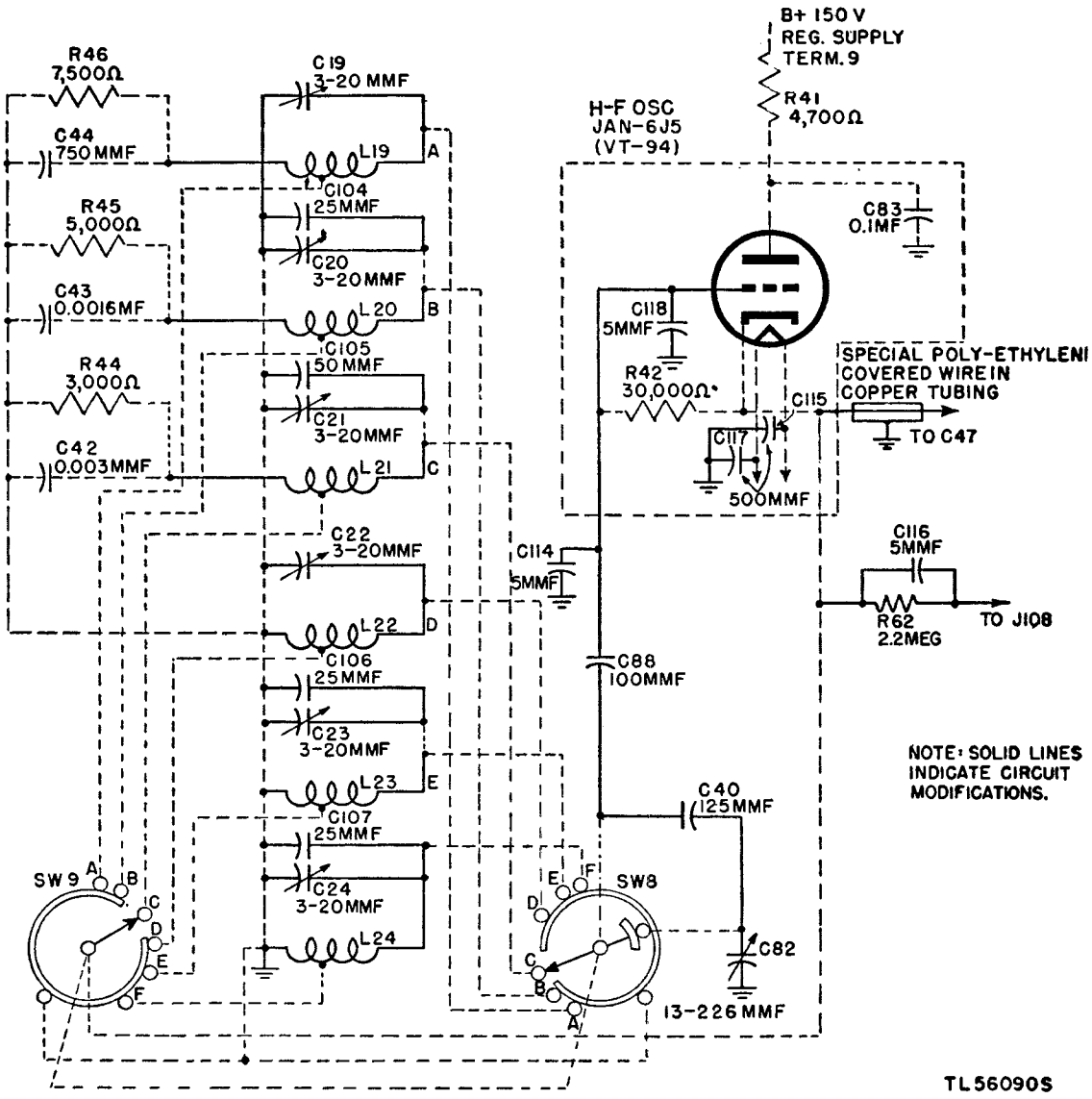

Figure 82 (Added). *Channel A Receiver, h-f oscillator, schematic diagram.*

65/MRC–2 only) and C40 were replaced with ceramic types. Both sides of the r-f oscillator tube filaments were placed at r-f ground potential by the addition of 500-$\mu\mu$f capacitors C115 and C117. The r-f voltage at the cathode of the oscillator tube is coupled through a special polyethylene-covered conductor and a ceramic (mica in OA–65A/MRC–2) d-c blocking capacitor, C47, to the injector grid of the mixer tube. The r-f voltage at the cathode of the oscillator tube is also connected through a 5-$\mu\mu$f capacitor, C116, and a 2.2-megohm resistor, R62, to jack J108 on the back of the oscillator compartment (fig. 83). This accommodates plug P2 of the oscillator coupling amplifier. In the most recent models, variable capacitors C19, C20, C21, C22, C23, and C24 are changed in value from 3–20 $\mu\mu$f to 4–23 $\mu\mu$f; capacitor C40 is changed in value from 125 to 100 $\mu\mu$f; capacitors C115 and C117 are changed from 500 to 470 $\mu\mu$f;

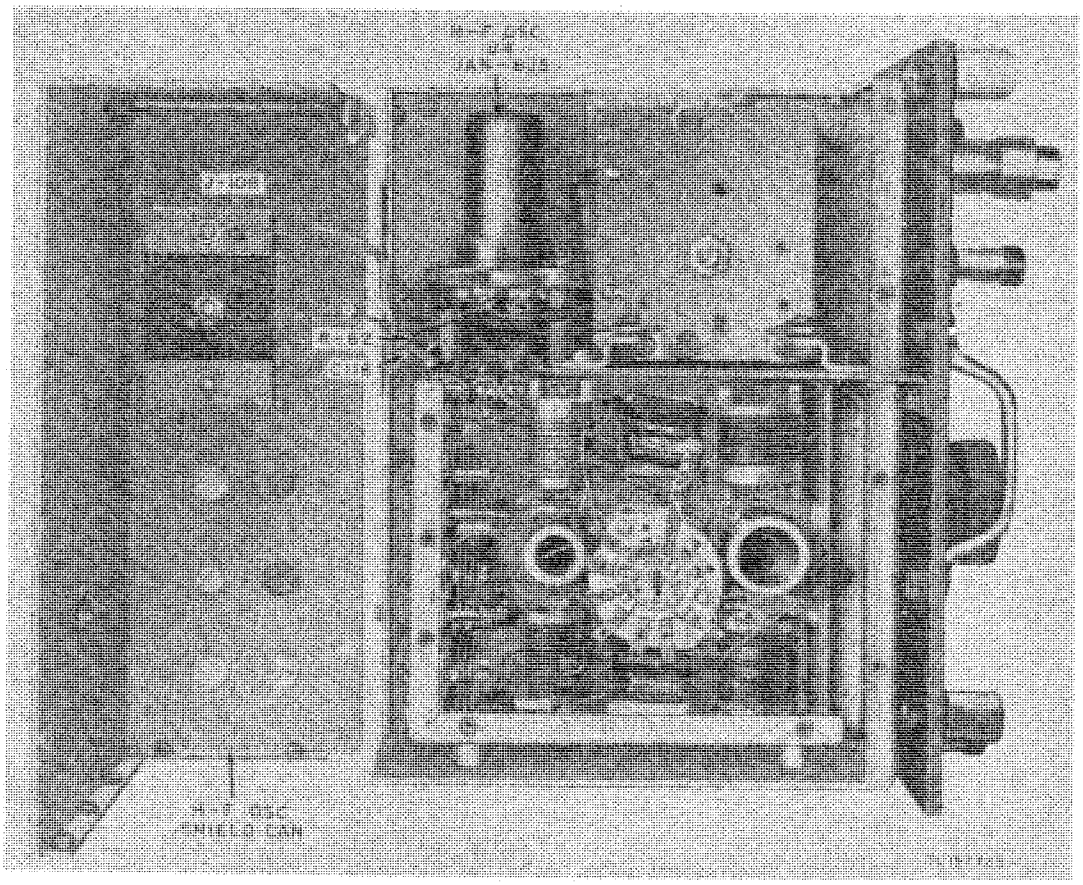

Figure 83 (Added). *Channel A Receiver, h-f oscillator compartment, shield removed.*

capacitor C118 is changed in value from 5 to 6 $\mu\mu$f; resistor R45 is changed from 5,000 ohm to 5,100 ohm (fig. 94).

b. Modification of Mixer Stage (fig. 84). D-c blocking capacitor C47, which couples the oscillator voltage to the injector grid of mixer tube V3 (a type 6L7) has been changed to a silvered-mica ceramic type of the same value. Injector grid r-f bypass capacitor C112 (6 $\mu\mu$f), having a negative temperature coefficient, has been added to compensate for variations in the circuit with temperature changes. Screen grid r-f bypass capacitor C113 (500 $\mu\mu$f) has been added for additional filtering action. Screen voltage dropping resistors R15 and R50 have been replaced by two 7,500-ohm resistors, R63 and R64. In the most recent models, the values of the components in figure 84 have been changed as follows: Resistor R13 is 51,000 ohms; resistor R14 is 360 ohms; resistor R48 is 62,000 ohms; capacitor C53 is 390 $\mu\mu$f; and capacitor C113 is 510 $\mu\mu$f. Capacitor C50 (.05 μf) should be connected from the B+ end of resistor R17 to ground (fig. 94).

c. I-F Amplifier Stage. To provide an i-f output connection from the second i-f amplifier stage, the circuit of the second i-f tube V6 (a type 6K7) is modified as shown in figure 85. Cathode bypass capacitor C68 is disconnected, and the i-f signal voltage developed

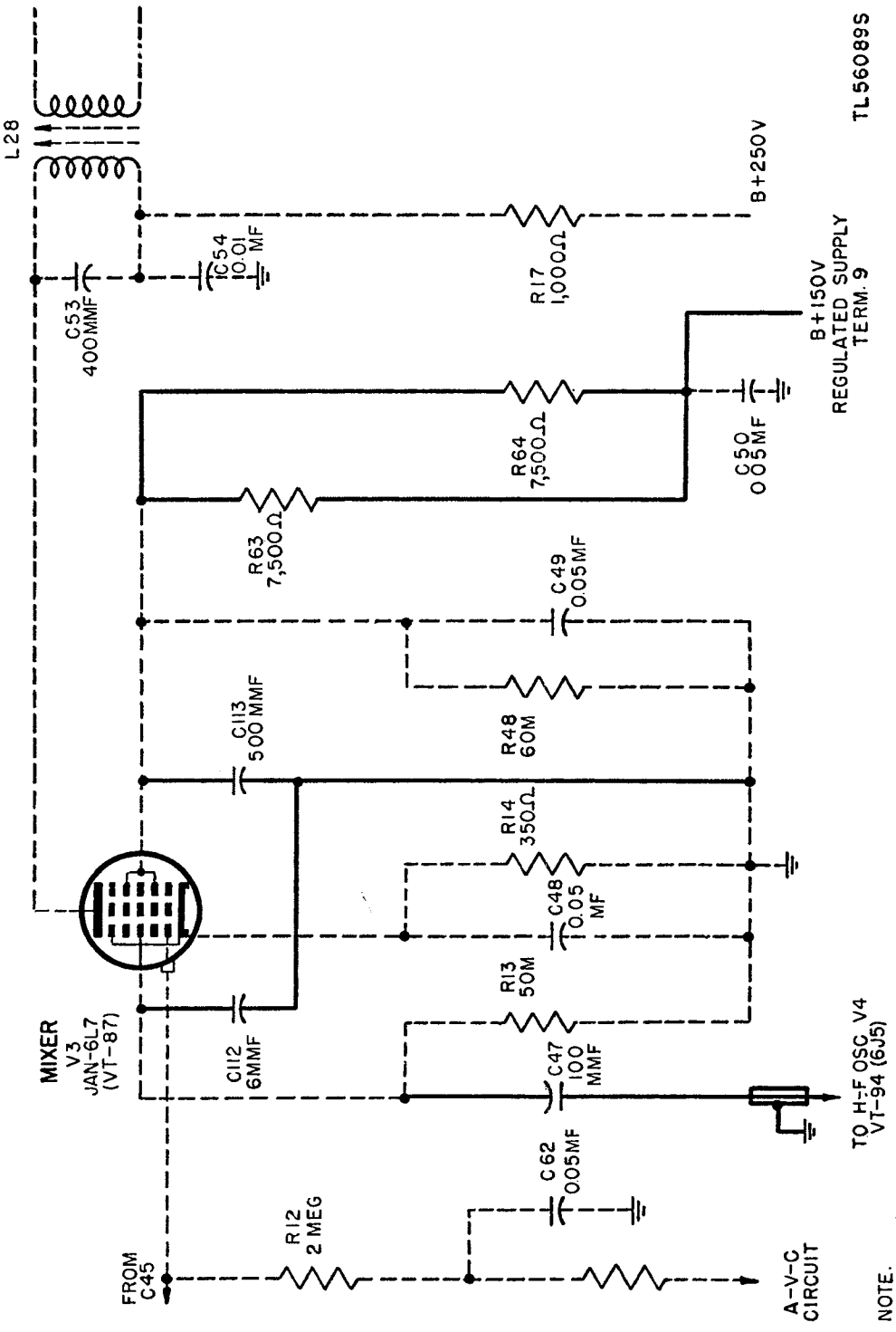

Figure 84 (Added). *Channel A Receiver, mixer stage, schematic diagram.*

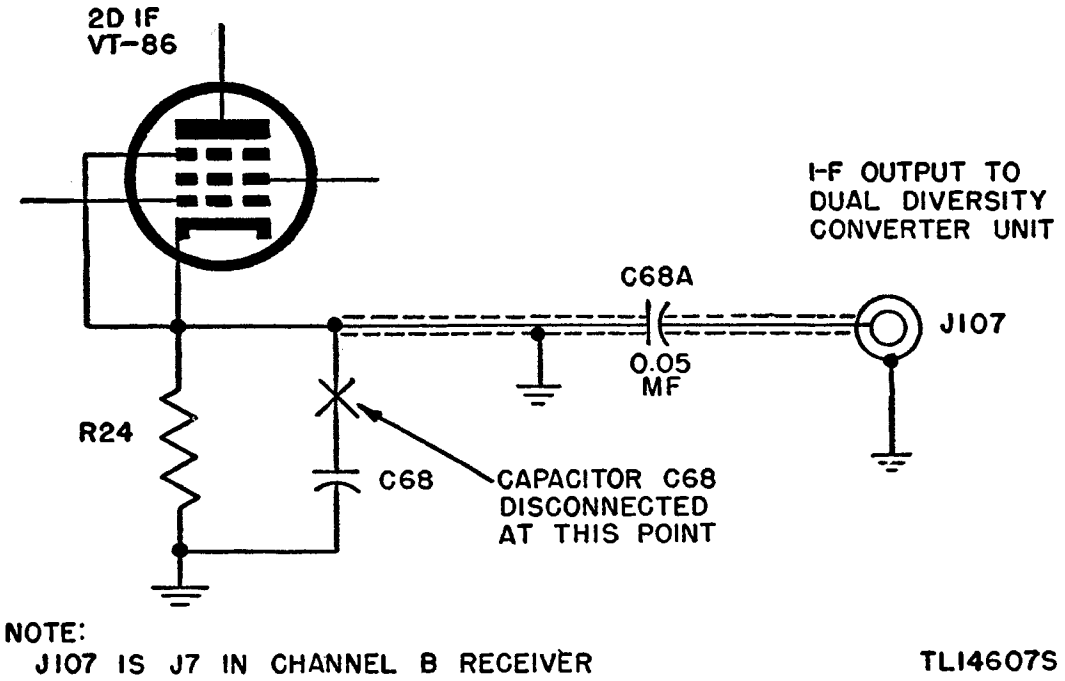

Figure 85 (Added). *Channel A Receiver and Channel B Receiver, i-f amplifier output connection, schematic diagram.*

across R24 is applied through a shielded wire and an additional capacitor, C68A, to coaxial connector J107 mounted on the front panel. For operation with Radio Set AN/MRC-2(*) (TM 11-624), the i-f signal at J107 is fed through a length of coaxial cable to one end of the dual diversity converter unit. In the most recent models, capacitor C68A has been changed to C121 with the value remaining the same.

d. Rectifier RA-20-A and RA-20-B. The Channel A Receiver uses a regulated a-c power supply, Rectifier RA-20-A or RA-20-B, to furnish filament and plate power. For theory of operation and description of components for the rectifier, refer to paragraph 63.

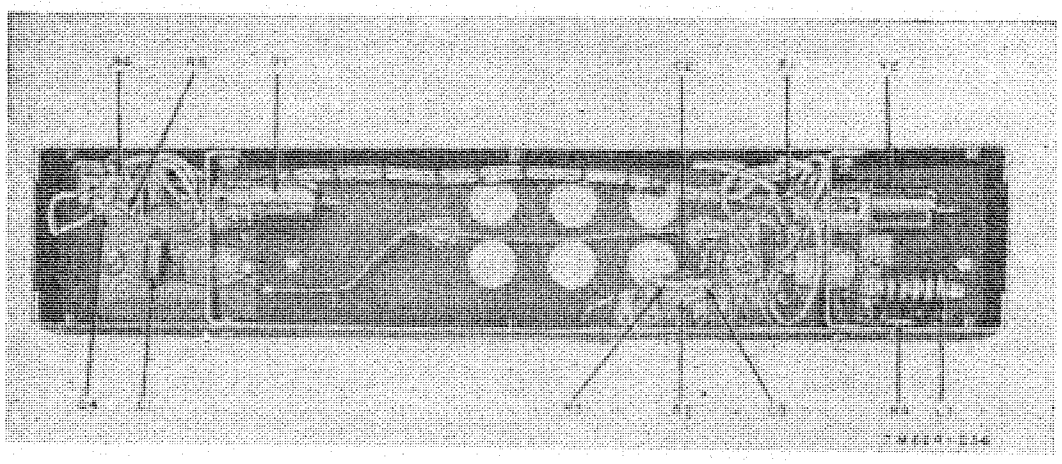

Figure 86 (Added). *Oscillator-Amplifier O-59(*)/MRC, interior view of chassis.*

3. Oscillator-Amplifier O–59(*)/MRC

a. The oscillator coupling amplifier (fig. 86) is a two-stage, r-f amplifier designed to supply the proper oscillator voltages from Channel A Receiver to mixer tube V3 (a type 6L7) of Channel B Receiver with a minimum of reaction on the oscillator of Channel A Receiver.

b. Mechanically, the amplifier consists of a small chassis provided with plugs P1 and P2 which engage jacks J8 and J108 of Channel B and Channel A Receivers, respectively (fig. 87).

c. Electrically, the amplifier consists of a type 6C4 tube resistance, coupled to a type 6AK6 tube by plate resistor R5 (12,000 ohms), blocking capacitor C1 (100 $\mu\mu$f), and grid-bias resistor R1 (2.2 megohms). The grid of the type 6C4 tube is connected directly to plug P2 and its cathode is biased by resistor R6 (1,000 ohms) and bypassed to ground by capacitor C4 (2,200 $\mu\mu$f) (fig. 89).

d. The type 6AK6 tube plate circuit is connected to pin 1 of P1 and is shunt-fed through choke L1 (5 millihenries) and resistor R4 (22,000 ohms). The voltage on the screen of the type 6AK6 tube is dropped to the proper value by resistor R3 (180,000 ohms) and bypassed to ground by capacitor C3 (3,300 $\mu\mu$f). The suppressor and cathode elements are connected together and biased by resistor R2 (1,000 ohms); and bypassed to ground by capacitor C2 (3,300 $\mu\mu$f). Plate and filament voltages for the oscillator-coupling amplifier are supplied from the Channel B Receiver through plug P2 inserted into the oscillator tube socket. Plate voltage is furnished by pin 3 and heater voltages by pins 2 and 4 of socket J8.

e. Input to the amplifier from the h-f oscillator in Channel A Receiver is coupled through J108 and P2. Output from the amplifier to Channel B Receiver is coupled through P1, J8 (fig. 87), and P2 (fig. 90).

4. Channel B Receiver

a. Modification of H-F Oscillator Stage.

(1) Excepting the addition of capacitor C47 and the polyethylene-covered conductor, and the substitution of a different type tube, the modifications discussed previously for the Channel A h-f oscillator (par. 2, app III) apply equally to the Channel B Receiver. In addition to these changes, the oscillator tube and resistor R42 are removed and an adapter assembly (P2 and J8 interconnected) is added.

(2) The removal of the oscillator tube and resistor R42 allows the former oscillator circuits to function as a buffer stage. The buffer stage is connected to the output of the oscillator coupling amplifier through the adapter assembly. Plug P2

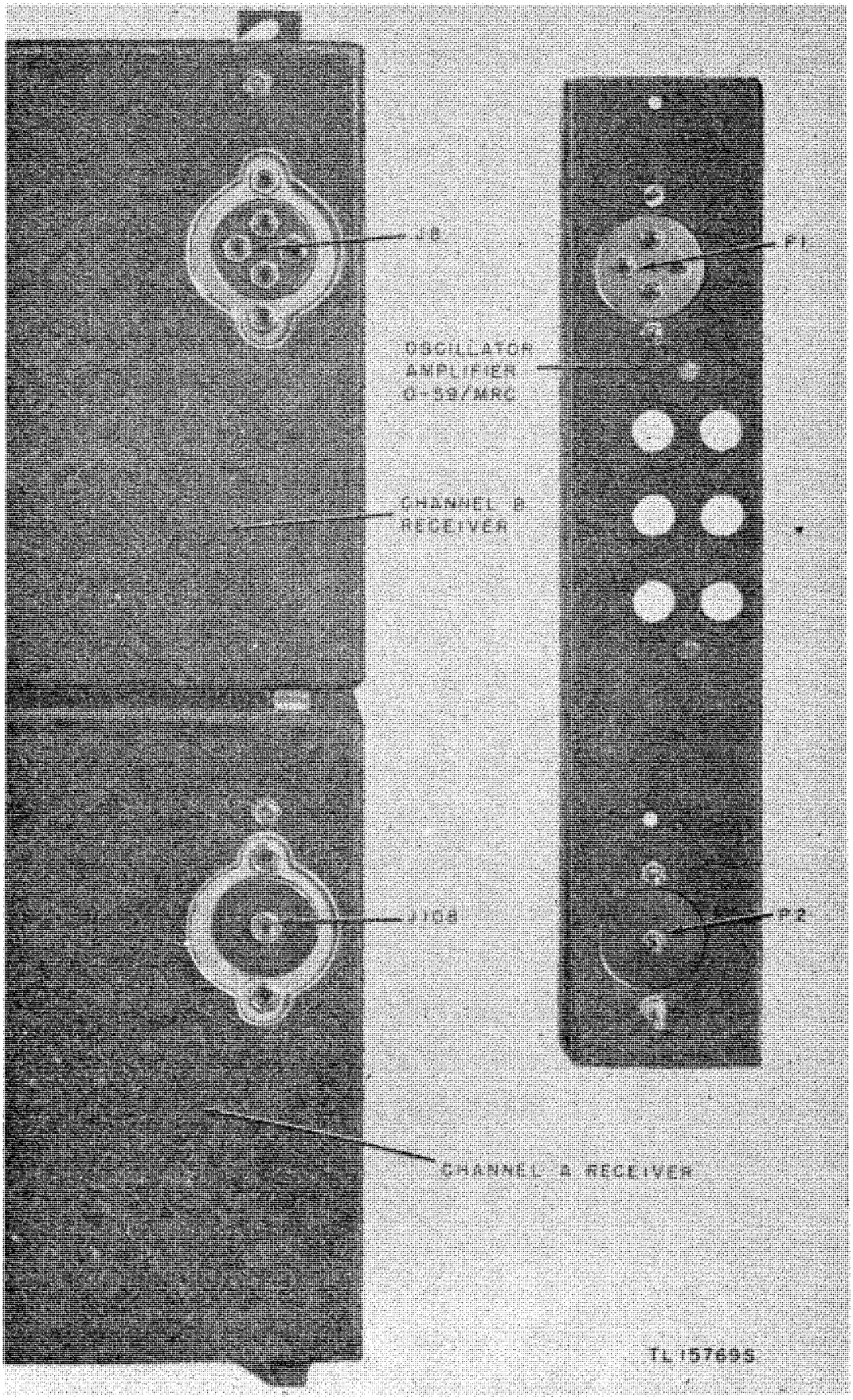

Figure 87 (Added). *Oscillator coupling amplifier chassis.*

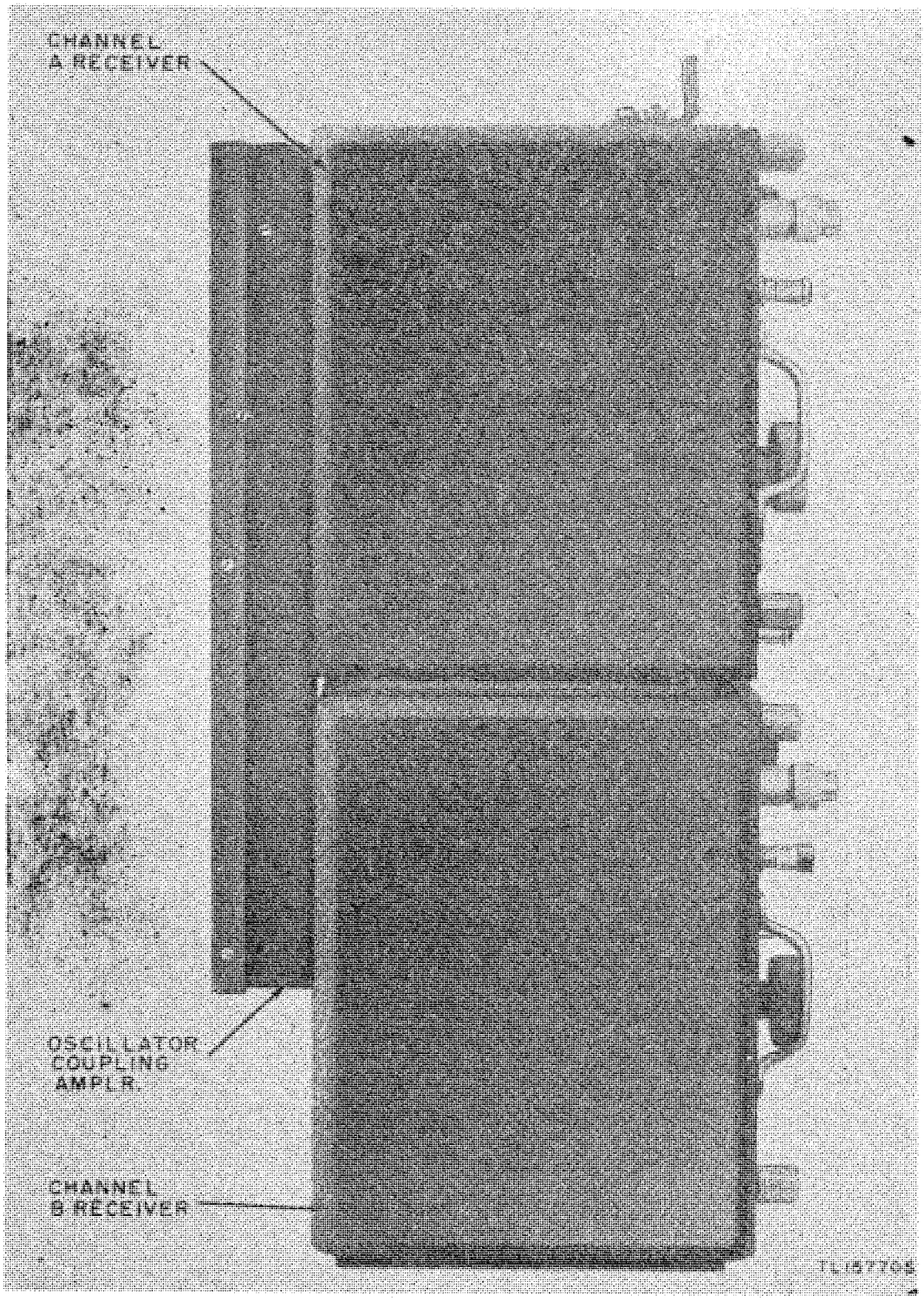

Figure 88 (Added). *Radio Receiver Assembly OA-65(*)/MRC-2, side view, showing oscillator amplifier.*

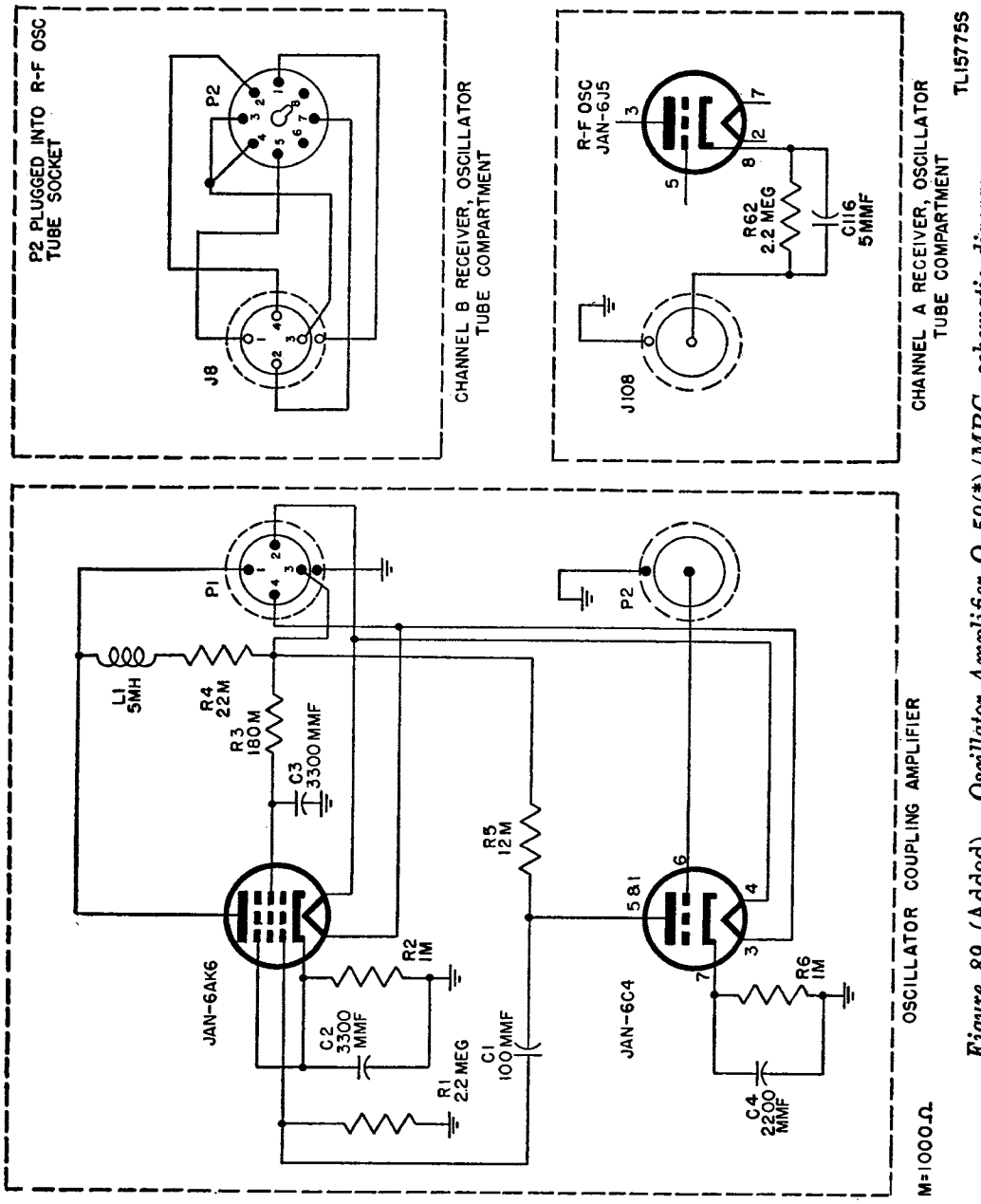

Figure 89 (Added). *Oscillator-Amplifier O-59(*)/MRC, schematic diagram.*

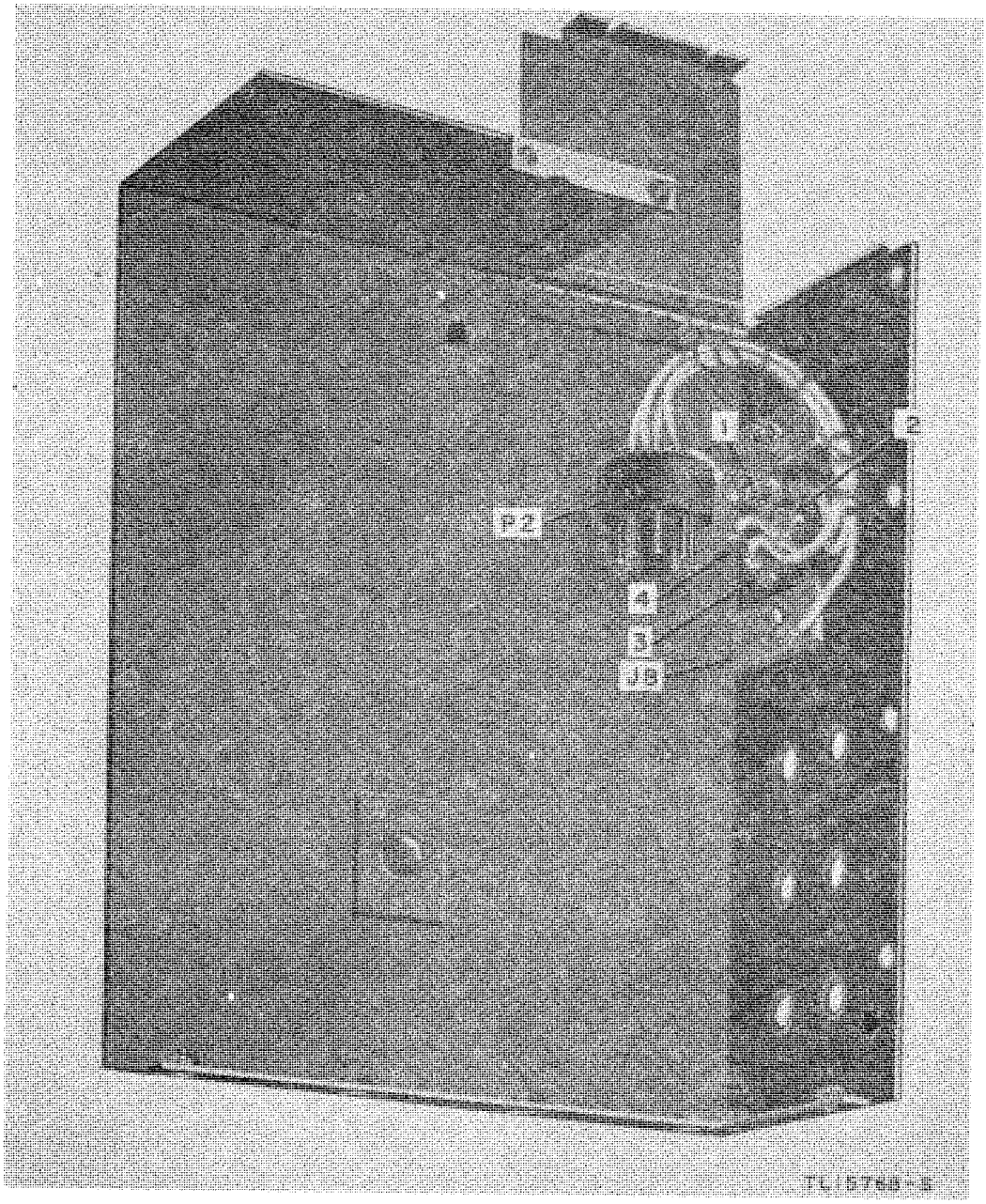

Figure 90 (Added). *Channel B Receiver, h-f oscillator compartment.*

is inserted into the tube socket of the former h-f oscillator stage and connections are made from P2 to jack J8 mounted at the rear of the oscillator compartment (fig. 90). Jack J8 accommodates plug P1 of the oscillator amplifier.

b. Modification of Mixer Stage. The mixer stage is modified as described in paragraph 2, appendix III. In later modifications, capacitors C112 and C113 are omitted in the Channel B Receiver only (fig. 96).

c. I-F Amplifier Stage. To provide an i-f output connection (fig. 85) to the dual diversity converter (TM 11-624), the receiver is modified as described in paragraph 2, appendix III.

d. Rectifiers RA–20–A and RA–20–B. The Channel B Receiver uses a regulated a-c power supply, Rectifier RA–20–A or RA–20–B, to furnish filament and plate power. For theory of operation and description of components for the rectifier, refer to paragraph 63.

5. Localizing Trouble in Oscillator-Amplifier O–59(*)/MRC

a. Troubles.

Symptoms	Probable troubles	Corrections
1. Tubes type 6C4 and 6AK6 do not light.	1. No a-c power on Channel B Receiver.	1. Check to see that OFF-M.V.C.-A.V.C. switch is at M.V.C. position.
	Defective receiver a-c power cord.	Repair or replace a-c power cord.
	Defective fuse	Replace DYN-FIL fuse
2. Either tube 6C4 or 6AK6 does not light.	2. Burned-out tube	2. Turn off power to Channel B Receiver immediately. The unbalanced condition caused by an open filament in either of the tubes will damage the other tube. Test both tubes, and replace if defective.
3. Signal is heard in Channel A Receiver but not in Channel B Receiver.	3. Channel B Receiver not tuned to same frequency as Channel A Receiver.	3. Set BAND SWITCH and tuning dial to same frequency.
4. Channel A and B Receivers seem to be operative but signal is not heard in Channel B Receiver.	4. Defective part in oscillator coupling amplifier.	4. Make voltage and resistance checks on amplifier (see voltage and resistance charts and fig. 92).

b. Voltage Measurements. The table below shows the voltage measurements taken on the chassis of Oscillator-Amplifier O–59(*)/MRC, a component of Radio Receiver Assembly OA–65(*)/MRC–2.

Tube	Function	Pins						
		1	2	3	4	5	6	7
6C4	Buffer			H	H	170	0	7.5
6AK6	R-f amplifier	0	6	H	H	125	80	6.0

NOTES

1. The letter H designates 6.3V AC measured between the heaters.
2. All voltages measured from tube pin to ground with 1,000 ohms-per-volt meter.
3. In measuring voltages from 50 to 250 volts, use the 250-volt scale. When measuring voltages under 50 volts, use the 50-volt scale of the meter.

c. Resistance Measurements. The table below shows the resistance measurements of Oscillator-Amplifier O–59(*)/MRC, a component of Radio Receiver Assembly O–59(*)/MRC–2.

Tube	Function	Pins						
		1	2	3	4	5	6	7
6C4	Buffer			0	2.5	25,000	2.2 meg	1,000
6AK6	R-f amplifier	2.2 meg	1,000	0	2.5	35,000	190,000	1,000

6. Alinement of Radio Receiver Assembly OA–65(*)/MRC–2

Remove the Channel A Receiver and Channel B Receivers from the cases and aline the i-f amplifier stages according to the instructions given in paragraphs 84 and 85. Aline the h-f oscillator, r-f, and mixer stages as described in *a* through *j* below.

a. Remove the six screws holding the cover to the oscillator-amplifier and lift the cover from the chassis. Remove the two elastic stop nuts which hold the amplifier chassis to the receiver case and remove the amplifier. Stand both Channel A and Channel B Receivers on the power-supply end in the same relative position they occupied when in the receiver cases. Remove the protecting screw caps, which permit access to the r-f trimmer adjustment screws, and loosen the trimmer locknuts. Plug the oscillator-amplifier into the two receivers (fig. 91).

b. Connect the a-c power cords of both receivers to an a-c receptacle and turn on both by setting the OFF-M.V.C.-A.V.C. switch to the M.V.C. position. Allow the receivers a sufficient time to warm up to prevent frequency drift while making adjustments.

c. Aline the h-f oscillator and the r-f and mixer stages of the Channel A Receiver according to instructions given in paragraphs 87 and 88.

d. After the Channel A Receiver has been alined (*c* above), set the main tuning dial of both Channel A and Channel B Receivers to 2 mc (band A). Connect a vacuum-tube voltmeter (VTVM) (suitable for either a-c or d-c measurements) between pin No. 5 of mixer tube V3 and ground on the Channel B Receiver. The test leads to the meter should be as short as possible.

e. Adjust the h-f oscillator trimmer A on the Channel B Receiver to give a maximum indication on the VTVM.

f. Move the BAND CHANGE switch of both receivers to the 3000–5000 mc position (band B), and adjust the h-f oscillator trimmer B of the Channel B Receiver to give a maximum indication on the VTVM.

g. Repeat the step described in *f* above in adjusting the h-f oscillator trimmers C, D, E, and F of the Channel B Receiver. Be sure to

check each step to see that the BAND CHANGE switch is in the respective band C, D, E, and F positions.

h. The r-f amplifier stages of the Channel B Receiver are to be alined at the frequencies recommended in paragraph 88.

Note. It is necessary that both receivers be tuned to the same frequency in each band during the alinement procedure.

i. After the alinement of both receivers has been completed, tighten the trimmer locknuts, remove the oscillator-amplifier from the receivers, and mount the amplifier on the receiver cases with the two elastic stop nuts. Do not screw the nuts on tightly; leave them loose enough to allow some play. Replace the trimmer cap screws. Carefully replace the Channel A and Channel B Receivers in their respective cases. Take care not to force the receivers into the cases as the amplifier connecting plugs may be damaged.

j. Replace the oscillator-amplifier. Put the cover of the amplifier in place and secure the cover to the chassis with the six screws previously removed.

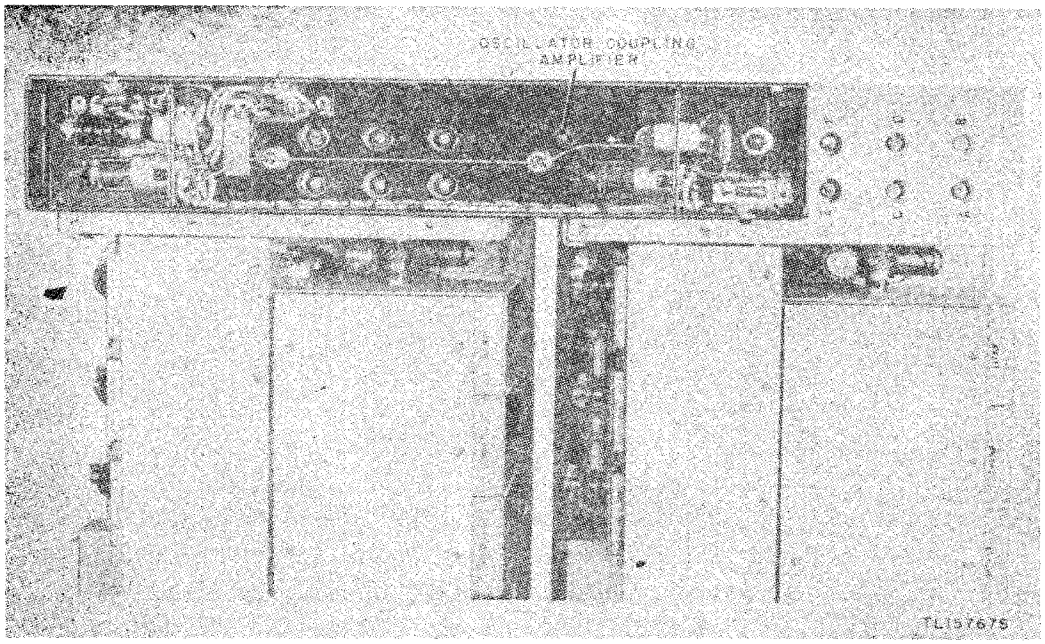

Figure 91 (Added). *Radio Receiver Assembly OA-65(*)/MRC-2, in position for alinement.*

7. Identification Table of Parts

a. Identification Table of Parts for Oscillator-Amplifiers O–59/MRC and O–59A/MRC.

Ref symbol	Name of part and description	Function of part	Signal Corps stock No.
	OSCILLATOR-AMPLIFIERS O–59/MRC and O–59A/MRC: freq range 1.5 to 18 mc; approx .5 w output; 15¼" lg x 2⅞" wd x 1⅝" d; integral coils; 6.3 v AC for heater and 250 v DC for plates.	Couples r-f output of oscillator in channels A and B.	2C2710–59
	BOARD, terminal: general purpose; 4 solder lug term.; phenolic; 1/16" thk x ⅜" wd x 1⅞" lg; Amer Rad Hdwe #1621.	Mounts components	3Z12531–36
	BOARD, terminal: general purpose; 3 solder lug term.; phenolic; 1/16" thk x ⅜" wd x 1⅝" lg; Amer Rad Hdwe #1620 w/#1841 bracket.	Mounts components	3Z12531–44.3
C1	CAPACITOR, fixed: mica; 100 μμf ±10%; 500 vdcw; max body dimen 51/64" lg x 15/32" wd x 7/32" thk; JAN type CM20B101K.	Couples signal from tube 6C4 to tube 6AK6	3K2010121
C4	CAPACITOR, fixed: mica; 2200 μμf ± 10%; 500 vdcw; max body dimen 53/64" lg x 53/64" wd x 9/32" thk; JAN type CM30B222K.	Cathode bypass, tube 6C4	3K3022221
C2, C3	CAPACITOR, fixed: mica; 3300 μμf ± 10%; 500 vdcw; max body dimen 53/64" lg x 53/64" wd x 9/32" thk; JAN type CM30B332K.	C2: Cathode bypass, tube 6AK6 C3: Screen bypass, tube 6AK6.	3K3033221
L1	COIL, RF: choke; single winding, 5 sect. pie-wound, duo-lateral type; unshielded; 5 mh; 35 ohms; ceramic form, air core; form ¼" dia x 1½" lg; Miller JW #4538.	Plate choke, tube 6AK6	3C342–26
	CONNECTOR, plug: single round male cont; straight, banana plug; o/a lg 1.115", pin .53" lg, #6–32 x ⅜" lg thd; nickel silver spring, nickel brass screw; Johnson EF #75.	For plug P1	2Z7249.3
	CONNECTOR, plug: single round male cont; straight; banana plug; o/a lg 1.490", pin .53" lg, #6–32 x ¾" lg thd; nickel silver spring, nickel brass screw; Johnson EF #75A.	Ground pins for plug P2	2Z7249.5

a. Identification Table of Parts for Oscillator-Amplifiers O-59/MRC and O59A/MRC—(Continued).

Ref symbol	Name of part and description	Function of part	Signal Corps stock No.
	INSULATOR, feedthrough: conical; white ceramic; glazed; 2¼" lg o/a; ⅝" OD w/.140" dia axial hole; includes 1 #6-32 x 2¼" lg brass stud w/4 #6-32 hex. nuts and 2 solder lugs; Natl Co #XS-7.	Feedthrough	3G1050-36.1
	INSULATOR, stand-off: conical; white, low-loss ceramic; ¾" lg; tapped hole ea end for mtg; Natl Co #GS-10.	Stand-off	3G1000-6.1
R2, R6	RESISTOR, fixed: comp; 1000 ohms ± 10%; ½ w; max body dimen .655" lg x .249" dia; JAN type RC21BF102K.	R2: Cathode resistor, tube 6AK6 R6: Cathode Resistor, tube 6C4.	3RC21BF102K
R5	RESISTOR, fixed: comp; 12,000 ohms ± 10%; ½ w; max body dimen .655" lg x .249" dia; JAN type RC21BF123K.	Plate resistor, tube 6C4	3RC21BF123K
R4	RESISTOR, fixed: comp; 22,000 ohms ± 10%; ½ w; max body dimen .655" lg x .249" dia; JAN type RC21BF223K.	Plate resistor, tube 6AK6	3RC21BF223K
R3	RESISTOR, fixed: comp; 180,000 ohms ± 10%; ½ w; max body dimen .655" lg x .249" dia; JAN type RC21BF184K.	Screen resistor, tube 6AK6	3RC21BF184K
R1	RESISTOR, fixed: comp; 2.2 meg ± 10%; ¼ w; max body dimen .406" lg x .170" dia; JAN type RC10BF225K.	Grid resistor, tube 6AK6	3RC10BF225K
	SOCKET, tube: 7 cont miniature; 1-piece saddle mtg; round steatite body, 1¼" lg x 13/16" o/a dia; w/metal shield; JAN type SO10C.	For tubes 6AK6 and 6C4	2Z8677.95
V2	TUBE, electron: type 6AK6	Second amplifier	2J6AK6
V1	TUBE, electron: type 6C4	First amplifier	2J6C4

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2.

Note.—Asterisk (*) in Model Columns indicates units in which parts are used.

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
							RADIO RECEIVER ASSEMBLY OA-65/MRC-2: AM and CW, freq shift; radio teletype comm; freq range 1.5 to 18 mc in 6 bands; input 110/120 v AC, 50/60 cyc; shock mtd steel cabinets; 18″ lg x 21″ h x 8¾″ d o/a.	Receives radio signals	2C5137-65
							RADIO RECEIVER ASSEMBLY OA-65A/MRC-2: AM and CW, freq shift; radio teletype comm; freq range 1.5 to 18 mc in 6 bands; input 110/120 v AC, 50/60 cyc; shock mtd steel cabinets; 18″ lg x 21″ h x 8¾″ d o/a.	Receives radio signals	2C5137-65A
	(*)	(*)	(*)	(*)	(*)	(*)	TECHNICAL MANUAL TM 11-850		Order through AGO.
	(*)		(*)		(*)		ABSORBER, shock: Snubber Bracket MT-564/U; anchors top of rec to wall.	For mounting receiver	2Z6763-564

b. *Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2* (continued)

Ref symbol	Models: Radio Set AN/MRC-2, Channel B Receiver	Models: Radio Set AN/MRC-2, Channel A Receiver	Models: Radio Set AN/MRC-2A, Channel B Receiver	Models: Radio Set AN/MRC-2A, Channel A Receiver	Models: Radio Set AN/MRC-2B, Channel B Receiver	Models: Radio Set AN/MRC-2B, Channel A Receiver	Name of part and description	Function of part	Signal Corps stock No.
	1	2	3	4	5	6			
P2	(*)		(*)		(*)		ADAPTER, tube socket: male one end, open shell other end; 8-prong octal cont one end, other end open; straight; for tube, headphone, microphone, speaker or general adapter purpose; body 1″ h x 1¼″ wd; round, phenolic; Amphenol #50-8SD.	For connecting V4 socket to Oscillator-Amplifier O-59-MRC.	2Z306-14
	(*)	(*)	(*)	(*)	(*)	(*)	ARM: cont; copper; 17/32″ lg x 5/16″ wd x 1/32″ thk o/a; Sig C dwg #2566-M, item 28.	Part of CRYSTAL PHASING switch.	3Z70-3
	(*)	(*)	(*)	(*)	(*)	(*)	ARRESTOR, electrical surge: neon lamp	Antenna overload protection.	2Z5988-28
35	(*)	(*)	(*)	(*)	(*)	(*)	BALL, bearing: steel; spherical; 7/32″ dia; Sig C dwg #SC-D-2545, item 86.	Hardware	2Z1650/2
			(*)	(*)	(*)	(*)	BOARD, terminal: general purpose; 2 hot solder-dipped brass lug term.; 1⅛″ lg x 11/16″ wd x 33/64″ thk o/a.		3Z770-2.5

				(*)		(*)	BOARD, terminal: 3 double-ended solder lugs; 1 3/16" lg x 3/8" wd x 3/4" h o/a.	Junction terminal board between oscillator assembly and tube socket.	3Z770-3.61
				(*)		(*)	BOARD, terminal: 4 brass tin pl solder type term.; 1 1/16" sq x 3/4" h o/a.	----------	3Z770-4.117
(*)	(*)	(*)	(*)	(*)	(*)		BOARD, terminal: 3 solder lug term.; bakelite; 3/4" h x 1 3/16" wd x 1/16" thk o/a; Cinch #1520A (MWO SIG 11-850-3).	Prevents leakage in avc circuit.	2ZK9403.17
(*)	(*)	(*)	(*)	(*)	(*)		BOARD, terminal: 9 solder lug term.; phenolic 3 3/8" lg x 3/4" wd x 1/16" thk; Sig C dwg #SC-D-2570-J, items 5 and 37.	Mounts components	2Z9409.58
(*)	(*)	(*)	(*)	(*)	(*)		BOARD, terminal: 14 solder lug term.; phenolic 2 5/8" lg x 1 5/8" wd x 1/16" thk; includes two mtg brackets; Sig C dwg #SC-D-2570-J, items 2, 18, 3, and 36.	Mounts components	2Z9414.93
(*)	(*)	(*)	(*)	(*)	(*)		BOARD, terminal: 26 solder lug term; phenolic 5 1/8" lg x 1 17/32" wd x 1/16" thk; Sig C dwg #SC-D-2570-J, items 1, 18, and 13.	Mounts components	2Z9426-36
(*)	(*)	(*)	(*)	(*)	(*)		BRACKET: mtg; L-shaped; steel; 1.625" lg x 1.375" wd x 7/16" h o/a; Sig C dwg #SC-D-2535, item 7.	For socket SO-94	2Z1240-28
(*)	(*)	(*)	(*)	(*)	(*)		BUTTON, plug: brass; fits 7/8" dia hole; 57/64" dia x 5/64" thk; United Carr #50668.	Part of FAST TUNING knob.	2Z7091-3
(*)	(*)	(*)	(*)	(*)	(*)		CAP: connector; cast aluminum alloy; 2 5/8" h x 2 5/32" wd x 1 43/64" d; Sig C dwg #SC-D-2534, item 6.	For socket SO-94	2Z8794.1/C1
(*)	(*)	(*)	(*)	(*)	(*)		CAP: connector; metal; female thd 5/8"-27; w/2 3/4" lg chain; Amphenol #CCC-1.	Protects connector	2Z1612.19
(*)	(*)	(*)	(*)	(*)	(*)		CAP: cover for CW osc adj	Protects CW oscillator adjustment.	2Z6931/1

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
	(*)	(*)	(*)	(*)	(*)	(*)	CAP: cover for freq adj	Protects frequency adjustment.	2Z6931/2
C116	(*)	(*)		(*)		(*)	CAPACITOR, fixed: ceramic; 5 $\mu\mu$f $\pm$.5 $\mu\mu$f; zero temp coef; 500 vdcw; .562″ lg x .25″ dia, axial wire leads 1¼″ lg; JAN type CC21CH050D.	OSC coupling to J108	3D9005-42
C41	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: mica; 5 $\mu\mu$f $\pm$20%; 500 vdcw; max body dimen 51/64″ lg x 15/32″ wd x 7/32″ thk; JAN type CM20B050M.	C-w oscillator coupling	3K2005024
C108, C111, C114	(*)	(*)		(*)		(*)	CAPACITOR, fixed: ceramic; 5 $\mu\mu$f $\pm$.25 $\mu\mu$f; neg temp coef 750 $\mu\mu$f/μf/° C; 500 vdcw; body dimen .460″ lg x .240″ dia; JAN type CC30UJ050C.	C108: For stability C111: For stability. C114: Maintains h-f oscillator stability.	3D9005-73
C112, C118	(*)	(*)		(*)		(*)	CAPACITOR, fixed: ceramic; 6 $\mu\mu$f $\pm$.25 $\mu\mu$f; neg temp coef 750 $\mu\mu$f/μf/° C; 500 vdcw; body dimen .400″ lg x .200″ dia; JAN type CC20UJ060C.	C112: V3 injection grid bypass. C118: Maintains h-f osc stability.	3D9006-18

C67	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: mica; 10 $\mu\mu$f $\pm$10%; 500 vdcw; max body dimen $^{51}/_{64}$" lg x $^{15}/_{32}$" wd x $^{7}/_{32}$" thk; JAN type CM20B100K.	V7 a-v-c diode coupling	3K2010021
C104, C106, C107	(*)	(*)					CAPACITOR, fixed: ceramic; 24 $\mu\mu$f $\pm$2 $\mu\mu$f; zero temp coef; 500 vdcw; body dimen .460" lg x .240" dia; JAN type CC30CH240G.	C104: H-f oscillator trimmer, band B. C106: H-f oscillator trimmer, band E. C107: H-f oscillator padder, band F.	3D9024-22
C104, C106, C107				(*)		(*)	CAPACITOR, fixed: ceramic; 25 $\mu\mu$f $\pm$2%; neg temp coef 30 $\mu\mu$f/μf/° C; 500 vdcw; body dimen .460" lg x .240" dia; Erie type T.	C104: H-f oscillator trimmer, band B. C106: H-f oscillator trimmer, band E. C107: H-f oscillator padder, band F.	3D9025-96
C119		(*)		(*)		(*)	CAPACITOR, fixed: ceramic; 25 $\mu\mu$f $\pm$1%; neg temp coef 80 $\mu\mu$f/μf/0° C; 500 vdcw; body dimen .400" lg x .200" dia; Erie type A.	For stability	3D9025-95
C105		(*)					CAPACITOR, fixed: ceramic; 47 $\mu\mu$f $\pm$1 $\mu\mu$f; zero temp coef; 500 vdcw; body dimen .460" lg x .240" dia; JAN type CC30CH470F.	H-f oscillator trimmer, band C.	3D9047-25
C105				(*)		(*)	CAPACITOR, fixed: ceramic; 50 $\mu\mu$f $\pm$1 $\mu\mu$f; zero temp coef; 500 vdcw; body dimen .460" lg x .240" dia; Erie type T.	H-f oscillator trimmer, band C.	3D9050-137
C96, C97	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: mica; 75 $\mu\mu$f $\pm$5%; 500 vdcw; max body dimen $^{51}/_{64}$" lg x $^{15}/_{32}$" wd x $^{7}/_{32}$" thk; JAN type CM20B750J.	C96: C-w oscillator output filter. C97: C-w oscillator output filter.	3K2075022

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models: Radio Set AN/MRC-2, Channel B Receiver	Models: Radio Set AN/MRC-2, Channel A Receiver	Models: Radio Set AN/MRC-2A, Channel B Receiver	Models: Radio Set AN/MRC-2A, Channel A Receiver	Models: Radio Set AN/MRC-2B, Channel B Receiver	Models: Radio Set AN/MRC-2B, Channel A Receiver	Name of part and description	Function of part	Signal Corps stock No.
	1	2	3	4	5	6			
C52, C64, C65	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: silver mica; 100 $\mu\mu$f $\pm$2%; 500 vdcw; max body dimen $^{51}/_{64}$" lg x $^{15}/_{32}$" wd x $^{7}/_{32}$" thk; JAN type CM20C101G.	C52: V5 grid coupling C64: Third i-f transformer secondary tuning. C65: Third i-f transformer primary tuning.	3K2010133
C40	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: ceramic; 100 $\mu\mu$f $\pm$1%; 500 vdcw; JAN type CC35HG-101F.	H-f oscillator padder	3D9100-310
C47	(*)	(*)					CAPACITOR, fixed: ceramic; 100 $\mu\mu$f $\pm$5%; zero temp coef; 500 vdcw; max body dimen 1.165" lg x .315" dia; JAN type CC35CF101J.	H-f oscillator output coupling.	3D9100-215
C33, C45, C86, C88 C101	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: mica; 10 $\mu\mu$f $\pm$5%; 500 vdcw; max body dimen $^{51}/_{64}$" lg x $^{15}/_{32}$" wd x $^{7}/_{32}$" thk; JAN type CM20B101J.	C33: V2 grid coupling C45: V3 grid coupling. C86: V9 grid coupling. C88: V4 grid coupling. C101: V1 grid coupling.	3K2010122

C47		(*)		(*)		(*)	Same as C33 above	H-f oscillator output coupling.	3K2010122
C25, C38, C100	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: mica; 125 $\mu\mu$f $\pm$1 $\mu\mu$f; 500 vdcw; 1 1/8" lg x 7/8" wd x 3/4" h o/a; 4 term.; mts on bakelite base; Farnsworth part/dwg #CA-294.	C25: 1st r-f padder. C38: Mixer padder. C100: 2d r-f padder.	3DEA125
C71	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: mica; 150 $\mu\mu$f $\pm$5%; 500 vdcw; max body dimen 51/64" lg x 15/32" wd x 7/32" thk; JAN type CM20B151J.	V7 cathode output filter.	3K2015122
C53, C55, C57	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: silver mica; 390 $\mu\mu$f $\pm$2%; 500 vdcw; max body dimen 51/64" lg x 15/32" wd x 7/32" thk; JAN type CM20C391G.	C53: First i-f transformer primary tuning. C55: V6 grid return bypass. C57: 2d i-f transformer primary tuning.	3K2039133
C115, C117		(*)		(*)		(*)	CAPACITOR, fixed: ceramic; 470 $\mu\mu$f $\pm$47 $\mu\mu$f; 500 vdcw; JAN type CM20B471K.	C115: V4 filament bypass. C117: V4 filament bypass.	3K2047121
C72	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: silver mica; 510 $\mu\mu$f $\pm$2%; 500 vdcw; max body dimen 51/64" lg x 15/32" wd x 7/32" thk; JAN type CM20C511G.	V7 cathode output filter.	3K2051133
C109, C110, C113	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: mica; 510 $\mu\mu$f $\pm$5%; 500 vdcw; max body dimen 1 1/16" lg x 15/32" max wd x 7/32" max thk; JAN type CM25B511J.	C109: Bypass. C110: Bypass. C113: V3 screen bypass.	3K2551122
C44	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: silver mica; 750 $\mu\mu$f $\pm$2%; 500 vdcw; max body dimen 53/64" sq x 9/32" thk; JAN type CM30E751G.	H-f oscillator padder, band A.	3K3075153

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
C94, C95	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: silver mica; 820 $\mu\mu$f ±2%; 500 vdcw; max body dimen $^{53}/_{64}$" lg x $^{53}/_{64}$" wd x $^{9}/_{32}$" thk; JAN type CM30C821G.	C94: 1st i-f transformer secondary tuning. C95: 1st i-f transformer secondary tuning.	3K3082143
C43	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: silver mica; 1600 $\mu\mu$f ±2%; 500 vdcw; max body dimen $^{53}/_{64}$" lg x $^{53}/_{64}$" wd x $^{9}/_{32}$" thk; JAN type CM30E162G.	H-f oscillator padder, band B.	3K3016253
C42	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: silver mica; 3000 $\mu\mu$f ±2%; 500 vdcw; max body dimen $^{53}/_{64}$" lg x $^{53}/_{64}$" wd x $^{9}/_{32}$" thk; JAN type CM30C302G.	H-f oscillator padder, band C.	3K3030233
C54, C56, C58, C63, C66, C76,	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: paper; 10,000 $\mu\mu$f ±10%; 400 vdcw; 1 $^{3}/_{8}$" lg x $^{41}/_{64}$" wd x $^{9}/_{32}$" thk; JAN type CN41A103M.	C54: V3 plate return bypass. C56: V6 grid return bypass. C58: V5 plate return bypass.	3DA10-449

C81								C63: V5 grid return bypass. C66: V6 plate return bypass. C76: V8 grid coupling. C81: V7 grid coupling.	3DA50-288
C27, C32, C39, C63, C87, C99, C102	(*)	(*)	(*)	(*)	(*)	Capacitor, fixed: paper; 50,000 $\mu\mu$f $\pm$20%; 400 vdcw; max body dimen 1 15/32" lg x 49/64" wd x 13/32" thk; JAN type CN43A-503M.		C27: V1 grid return bypass. C32: V1 plate return bypass. C39: V2 plate return bypass. C63: V5 grid return bypass. C87: V9 plate bypass. C99: V2 grid return filter. C102: V1 grid return filter.	3DA50-303
C68A C121	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: paper; 50,000 $\mu\mu$f $\pm$10%; 600 vdcw; max body dimen 1 13/16" lg x 1" wd x 3/4" thk; JAN type CP53B1-EF503K.		I-f output coupling	
C29, C30, C31, C35, C36, C37 C48, C49, C50, C59,	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: paper; 3 sect.; 50,000-50,000-50,000 $\mu\mu$f +20% - 10%; 300 vdcw; max body dimen 1 3/4" lg x 1" wd x 9/16" h; JAN type CP69B5EF503V.		C29: V1 cathode bypass. C30: V1 screen bypass. C31: V1 plate return bypass. C35: V2 cathode bypass. C36: V2 screen bypass. C37: V2 plate return bypass. C48: V3 cathode bypass. C49: V3 screen bypass.	3DA50-209

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models: Radio Set AN/MRC-2, Channel B Receiver	Models: Radio Set AN/MRC-2, Channel A Receiver	Models: Radio Set AN/MRC-2A, Channel B Receiver	Models: Radio Set AN/MRC-2A, Channel A Receiver	Models: Radio Set AN/MRC-2B, Channel B Receiver	Models: Radio Set AN/MRC-2B, Channel A Receiver	Name of part and description	Function of part	Signal Corps stock No.
	1	2	3	4	5	6			
C60, C61, C69, C70, C73, C74, C75								C50: V3 screen decoupling. C59: V5 cathode bypass. C60: V5 screen bypass. C61: V5 plate decoupling. C69: V6 screen bypass. C70: V6 plate return bypass. C73: V7 cathode bypass. C74: V7 plate return bypass. C75: Avc filter.	
C83	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: paper; 100,000 $\mu\mu$f ±10%; 400 vdcw; max body dimen 1 15/32" lg x 49/64" wd x 13/32" thk; JAN type CN43E104M.	V4 plate bypass	3DA100-838
C78, C79,	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: paper; 3 sect.; 100,000 - 100,000 - 100,000 $\mu\mu$f +20%	C78: Filament bypass C79: Filament bypass.	3DA100-748

C80							−10%; 600 vdcw; body dimen 1 3/16″ lg x 1″ wd x 7/8″ h; JAN type CP53B5EF-104V.	C80: V8 screen bypass.	
C98	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, fixed: paper; 4 μf ±10%; 100 vdcw; max body dimen 2″ lg x 2″ wd x 1″ h; JAN type CP53B1EB405K.	V8 cathode bypass	3DB4-315
C84	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, CA-383: variable; air; 1 to 10 μμf; .020″ air gap; 19/32″ lg x 15/16″ wd x 1 1/4″ h, shaft 1″ lg x 1/4″ dia; Sig C dwg #SC-A-1728.	CW OSC ADJUST	3D383
C19, C20, C21, C22, C23, C24	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, variable: air; plate meshing type; single sect.; 4 to 23 μμf; 600 v RMS; 1 1/16″ lg x 17/32″ h x 15/16″ wd; screw driver adj; 8 plates; JAN type CT1B025.	C19: H-f oscillator trimmer, band A. C20: H-f oscillator trimmer, band B. C21: H-f oscillator trimmer, band C. C22: H-f oscillator trimmer, band D. C23: H-f oscillator trimmer, band E. C24: H-f oscillator trimmer, band F.	3D9023V-7
C13	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, variable: air; plate meshing type; 4 to 23 μμf; SLC characteristic; 600 v RMS; 1 1/16″ lg x 15/16″ wd x 17/32″ h; screw driver adj; JAN type CT1C025.	V2 plate trimmer, band A	3D9023V-8
C51	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, CA-323: variable; air; 4 to 50 μμf; .015″ air gap; 12 plates; 1 5/32″ lg x 15/16″ wd x 1 1/4″ h, shaft 29/32″ lg x .204″ dia; Sig C dwg #SC-A-1728-3.	CRYSTAL PHASING	3D323

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
C4, C5, C6, C10, C11, C12, C16, C17, C18	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, CA-290: variable; air; 4 to 50 $\mu\mu$f; .015″ min air gap; 1 15/32″ lg x 15/32″ wd x 1¼″ h; Sig C dwg #SC-A-1728, fig. 2.	C4: V1 grid trimmer, band D. C5: V1 grid trimmer, band E. C6: V1 grid trimmer, band F. C10: V1 plate trimmer, band D. C11: V1 plate trimmer, band E. C12: V1 plate trimmer, band F. C16: V2 plate trimmer, band D. C17: V2 plate trimmer, band E. C18: V2 plate trimmer, band F.	3D290

C85	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, variable: air; plate meshing type, single sect.; 6 to 75 $\mu\mu$f; SLC characteristic; 600 v RMS; 1½" lg x 15/16" wd x 1 7/32" h; screw driver adj; JAN type CT1C075.	C-w oscillator trimmer	3D9075V-33
C2, C3, C8, C9, C14, C15	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, variable: air; plate meshing type, single sect.; 7.5 to 99 $\mu\mu$f; SLC characteristic; 600 v RMS; 1 11/16" lg x 15/16" wd x 1 7/32" h; screw driver adj; JAN type CT1C100.	C2: V1 grid trimmer, band B. C3: V1 grid trimmer, band C. C8: V1 plate trimmer, band B. C9: V1 plate trimmer, band C. C14: V2 plate trimmer, band B. C15: V2 plate trimmer, band C.	3D099V-4
C26	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, CA-293: variable; air; 10 to 210 $\mu\mu$f; .008" min air gap; 2⅝" lg x 1¼" dia; shaft ⅞" lg x ¼" dia; Sig C dwg #SC-A2580 (antenna tuning).	ALIGN INPUT	3D293
C28, C34, C46, C82	(*)	(*)	(*)	(*)	(*)	(*)	CAPACITOR, CA-292; variable; air; 4 sect.; 17 plates per sect.; 13 to 226 $\mu\mu$f per sect.; 7 9/16" lg x 2 23/32" wd x 3 3/16" h; shaft ¾" lg x ¼" dia; Sig C dwg #SC-D-2568.	C28: Main tunirg, V1 grid C34: Main tuning, V1 plate. C46: Main tuning, V2 plate. C82: Main tuning, h-f oscillator.	3D292
	(*)	(*)	(*)	(*)	(*)	(*)	CLAMP: dial lock; rolled steel; 3¼" x 1½" h o/a; Rouland #VC-0060.	Dial lock	2Z2635.175

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
	(*)	(*)	(*)	(*)	(*)	(*)	CLIP: tube cont; brass; ¼″ lg x ¼″ ID; Natl Co #8.	Tube connector	2Z2708
L31	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: BFO; universal wound; shielded; 225 turns #7–42 SSE Litz wire; ½″ lg x 11/16″ dia x ¼″ thk; Farnsworth part/dwg #2563–15.	BFO coil	2C2775/2
L13	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st detector; band A; single layer wound; unshielded; 1¾″ lg x 1″ dia; 52¾ turns; tapped at 5½ turns from start; Farnsworth part/dwg #2556–L13 (for Farnsworth and RCA models).	Mixer input, band A	3C390
L14	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st detector; band B; single layer wound; unshielded; 22 1/12 turns #22 AWG E wire; tapped at 18 1/12 turns from start; 1¾″ lg x 1″ dia; Farnsworth part/dwg #2556–L14 (for Farnsworth models only).	Mixer input, band B	3C390–1

L14	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st detector; band B; single layer wound; unshielded; 22 1/12 turns #22 AWG E wire; tapped at 18 turns from start; 1¾" lg x 1" dia; RCA part/dwg #T620350-508 (for RCA models only).	Mixer input, band B	3C1084H-10
L15	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st detector; band C; single layer wound; unshielded; 12 1/12 turns #18 AWG E wire; tapped at 5 1/12 turns from start; 1¾" lg x 1" dia; Farnsworth part/dwg #2556-L15 or RCA part/dwg #T620350-L15.	Mixer input, band C	3C390-2
L16	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st detector; band D; single layer wound; unshielded; 16 1/12 turns #18 AWG E wire; tapped at 4½ turns from start; 1⅝" lg x ¾" dia; Farnsworth part/dwg #2556-L16 (for Farnsworth models only).	Mixer input, band D	3C390-3
L16	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st detector; band D; single layer wound; unshielded; 16⅓ turns #18 AWG E wire; tapped at 4½ turns from start; 1⅝" lg x ¾" dia; RCA part/dwg #T620350516 (for RCA models only).	Mixer input, band D	3C1084H-9
L17	(*)	(*)	(*)	(*)	(*)	(*)	COIL: 1st detector; band E; single layer wound; unshielded; 10⅓ turns #18 AWG tinned wire; tapped at 6 turns from start; 1¾" lg x ¾" dia; Farnsworth part/dwg #2556-L17 or RCA part/dwg #T620350-L17.	Mixer input, band E	3C390-4

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
L18	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st detector; band F; single layer wound; unshielded; 7 turns #18 AWG tinned wire; tapped at 3 turns from start; 1¾" lg x ¾" dia; Farnsworth part/dwg #2556–L18 or RCA part/dwg #T620350–L18.	Mixer input, band F	3C390–5
L1	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band A; single layer wound; unshielded; 55½ turns #28 AWG E wire; tapped at 10½ turns from start; 1¾" lg x 1" dia; Farnsworth part/dwg #2556–L1 (for Farnsworth models only).	V1 input, band A	3C1083
L1	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band A; single layer wound; unshielded; 53 turns #28 AWG E wire; tapped at 15½ turns from start; 1¾" lg x 1" dia; RCA part/dwg #T620350–502 (for RCA models only).	V1 input, bandA	3C1084H–8

L2	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band B; single layer wound; unshielded; 22 1/6 turns #22 AWG E wire; tapped at 15 turns from start; 1¾" lg x 1" dia; Farnsworth part/dwg #2556-L2 (for Farnsworth models only).	V1 input, band B	3C1083-3
L2	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band B; single layer wound; unshielded; 22 1/6 turns #22 AWG E wire; tapped at 14 turns from start; 1¾" lg x 1" dia; RCA part/dwg #T620350-506 (for RCA models only).	V1 input, band B	3C1084H-11
L3	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band C; single layer wound; unshielded; 12 7/12 turns #18 AWG E wire; tapped at 7 turns from start; 1¾" lg x 1" dia; Farnsworth part/dwg #2556-L3 or RCA part/dwg #T620350-L3.	V1 input, band C	3C1083-6
L4	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band D; single layer wound; unshielded; 16⅓ turns #18 AWG E wire; tapped at 3½ turns from start; 1⅝" lg x ¾" dia; Farnsworth part/dwg #2556-L4 or RCA part/dwg #T620350-14.	V1 input, band D	3C1083-9
L5	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band E; single layer wound; unshielded; 10¾ turns #18 tinned wire; tapped at 6 turns from start; 1¾" lg x ¾" dia; RCA part/dwg #T620350-518 (for RCA models only).	V1 input, band E	3C1084H-12
L5	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band E; single layer wound; unshielded; 11 turns #18 AWG tinned wire; tapped at 6 turns from start; 1¾" lg x ¾" dia; Farnsworth part/dwg #2556-L5 (for Farnsworth models only).	V1 input, band E	3C1083-12

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models: Radio Set AN/MRC-2, Channel B Receiver	Models: Radio Set AN/MRC-2, Channel A Receiver	Models: Radio Set AN/MRC-2A, Channe B Receiver	Models: Radio Set AN/MRC-2A, Channel A Receiver	Models: Radio Set AN/MRC-2B, Channel B Receiver	Models: Radio Set AN/MRC-2B, Channel A Receiver	Name of part and description	Function of part	Signal Corps stock No.
	1	2	3	4	5	6			
L6	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 1st RF; band F; single layer wound; unshielded; 7⅝ turns #18 AWG tinned wire; tapped at 3 turns from start; 1¾" lg x ¾" dia; Farnsworth part/dwg #2556-L6 or RCA part/dwg #T620350-L6.	V1 input, band F	3C1083-15
L7	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band A; single layer wound; unshielded; 52⅔ turns #28 AWG E wire; tapped at 5½ turns from start; 1¾" lg x 1" dia; Farnsworth part/dwg #2556-L7 (for Farnsworth models only).	V2 input, band A	3C1083-1
L7	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band A; single layer wound; unshielded; 52¾ turns #28 AWG E wire; tapped at 5½ turns from start; 1¾" lg x 1" dia; RCA part/dwg #T620350-503 (for RCA models only).	V2 input, band A	3C1084H-13

L8	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band B; single layer wound; unshielded; 21 5/6 turns #22 AWG E wire; tapped at 17 turns from start; 1¾" lg x 1" dia; Farnsworth part/dwg #2556-L8 (for Farnsworth model only).	V2 input, band B	3C1083-4
L8	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band B; single layer wound; unshielded; 22½ turns #22 AWG E wire; tapped at 17 turns from start; 1¾" lg x 1" dia; RCA part/dwg #T620350-507 (for RCA models only).	V2 input, band B	3C1084H-14
L9	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band C; single layer wound; unshielded; 12½ turns #18 AWG E wire; tapped at 3 turns from start; 1¾" lg x 1" dia; Farnsworth part/dwg #2556-L9 or RCA part/dwg #T620350-L9.	V2 input, band C	3C1083-7
L10	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band D; single layer wound; unshielded; 16½ turns #18 AWG E wire; tapped at 3 7/12 turns from start; 1⅝" lg x ¾" dia; Farnsworth part/dwg #2556-L10 (for Farnsworth models only).	V2 input, band D	3C1083-10
L10	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band D; single layer wound; unshielded; 16⅓ turns #18 AWG E wire; tapped at 4 7/12 turns from start; 1⅝" lg x ¾" dia; RCA part/dwg #T620350-515 (for RCA models only).	V2 input, band D	3C1084H-15
L11	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band E; single layer wound; unshielded; 10¾ turns #18 AWG tinned wire; tapped at 6 turns from start; 1¾" lg x ¾" dia; Farnsworth part/dwg #2556-L11 (for Farnsworth models only).	V2 input, band E	3C1083-13

b. *Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2* (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
L11	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band E; single layer wound; unshielded; 10¼ turns #18 AWG tinned wire; tapped at 6 turns from start; 1¾" lg x ¾" dia; RCA part/dwg #T620350-519 (for RCA models only).	V2 input, band E	3C1084H-17
L12	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band F; single layer wound; unshielded; 6 ⅚ turns #18 AWG tinned wire; tapped at 4 turns from start; 1¾" lg x ¾" dia; Farnsworth part/dwg #2556-L12 (for Farnsworth models only).	V2 input, band F	3C1083-16
L12	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: 2d RF; band F; single layer wound; unshielded; 7⅓ turns #18 AWG tinned wire; tapped at 4 turns from start; 1¾" lg x ¾" dia; RCA part/dwg #T620350-523 (for RCA models only).	V2 input, band F	3C1084H-16
L32	(*)	(*)	(*)	(*)	(*)	(*)	COIL, RF: filter, universal wound; unshielded; 725 turns #36 SSE wire; 1¾" lg x ¾" dia; Sig C dwg #SC-D-2561.	C-w oscillator output filter	2C2775/3

L19		(*)		(*)		(*)	COIL, RF: oscillator, band A; single layer wound; unshielded; 45½ turns #28 AWG E wire; tapped for modified Hartley oscillator ckt; 1⅝" lg x 1" dia; Communication Coil Co #SO-109; B&W part #N-150.	H-f oscillator, band A	3C1083A-29
L19	(*)		(*)		(*)		COIL, RF: oscillator, band A; 1500-3000 kc; unshielded; 44 7/12 turns.	H-f oscillator, bandA	3C1083-2
L20		(*)		(*)		(*)	COIL, RF: oscillator, band B; single layer wound; unshielded; 19¾ turns #22 AWG tinned wire; tapped for modified Hartley oscillator ckt; 1¾" lg x 1" dia; Communication Coil Co #SO-110; B&W part #N-151.	H-f oscillator, band B	3C1083A-28
L20	(*)		(*)		(*)		COIL, RF: oscillator, band B; 3000-5000 kc; unshielded; 20 turns.	H-f oscillator, band B	3C1083-5
L21		(*)		(*)		(*)	COIL, RF: oscillator, band C; single layer wound; unshielded; 11 turns #18 AWG E wire; tapped for modified Hartley oscillator ckt; 1½" lg x 1" dia; Communication Coil Co #SO-111; B&W part #N-152.	H-f oscillator, band C	3C1083A-27
L21	(*)		(*)		(*)		COIL, RF: oscillator, band C; 5000-8000 kc; unshielded; 11½ turns.	H-f oscillator, band C	3C1083-8
L22		(*)		(*)		(*)	COIL, RF: oscillator; band D; single layer wound; unshielded; 18¼ turns #18 AWG E wire; tapped for modified Hartley oscillator ckt; 1¾" lg x ¾" dia; Communication Coil Co #SO-112; B&W part #N-153.	H-f oscillator, band D	3C1083A-26
L22	(*)		(*)		(*)		COIL, RF: oscillator; band D; 8000-11,000 kc; unshielded; 18½ turns.	H-f oscillator, band D	3C1083-11

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models: Radio Set AN/MRC-2, Channel B Receiver	Models: Radio Set AN/MRC-2, Channel A Receiver	Models: Radio Set AN/MRC-2A, Channel B Receiver	Models: Radio Set AN/MRC-2A, Channel A Receiver	Models: Radio Set AN/MRC-2B, Channel B Receiver	Models: Radio Set AN/MRC-2B, Channel A Receiver	Name of part and description	Function of part	Signal Corps stock No.
	1	2	3	4	5	6			
L23		(*)		(*)		(*)	COIL, RF: oscillator; band E; single layer wound; unshielded; 11 turns #18 AWG tinned wire; tapped for modified Hartley oscillator ckt; 1¾" lg x ¾" dia; Communication Coil Co #SO-113; B&W part #N-154.	H-f oscillator, band E	3C1083A-25
L23	(*)		(*)		(*)		COIL, RF: oscillator; band E; 11,000-14,000 kc; unshielded; 11⅛ turns.	H-f oscillator, band E	3C1083-14
L24		(*)		(*)		(*)	COIL, RF: oscillator; band F; single layer wound; unshielded; 7¾ turns #18 tinned wire; tapped for modified Hartley oscillator ckt; 1⅝" lg x ¾" dia; Communication Coil Co #SO-114; B&W part #N-155.	H-f oscillator, band F	3C1083A-24
L24	(*)		(*)		(*)		COIL, RF: oscillator; band F; unshielded; 7 ⅝ turns.	H-f oscillator, band F	3C1083-17

	4	(*)	(*)	(*)	(*)	(*)	(*)	CONNECTOR, plug: female; nut and ferrule assembly; Sig C dwg #SC-D-2578, items 2, 3, 4, 9, 13, 14, and 15.	For receiver connections	2C4312/N1
	J107	(*)	(*)	(*)	(*)	(*)	(*)	CONNECTOR, receptacle: single coaxial male cont, closed ckt, spring-actuated; straight; Amphenol #CL-PC1M.	Output to dual diversity converter.	2Z3021-141
	SO1	(*)	(*)	(*)	(*)	(*)	(*)	CONNECTOR, receptacle: Sig C Socket SO-94; 14 round polarized male cont, 12 small pins, 2 large pins; straight type; 1 3/8" x 1 3/8" x 1 7/32"; Sig C dwg #SC-D-2592.	Power receptacle	2Z8794.1
		(*)	(*)	(*)	(*)	(*)	(*)	CONTACT, switch: beryllium copper; 7/16" lg x 3/16" wd x 3/32" h o/a; Sig C dwg #SC-D-2556-M, item 27 (p/o ref SW-10).	Part of CRYSTAL PHASING switch.	3Z1716-12
	7	(*)	(*)	(*)	(*)	(*)	(*)	COVER: telephone jack; aluminum; .843" x .750" x .218"; engraved KEY; Sig C dwg #SC-D-2532, item 36.	For KEY jack	2Z5650-K
	8	(*)	(*)	(*)	(*)	(*)	(*)	COVER: telephone jack; aluminum; .843" x .570" x .218"; engraved MICRO; Sig C dwg #SC-D-2532, item 37.	Cover for MICRO jack	2Z5650-M
	10	(*)	(*)	(*)	(*)	(*)	(*)	COVER: telephone jack; phones, 2d audio; aluminum; Sig C dwg #SC-D-2532, item 39 (used only in BC-342 models L, M, N, NX, and HX).	Cover for 2D AUDIO jack	2Z5650-P2A
	9	(*)	(*)	(*)	(*)	(*)	(*)	COVER: telephone jack; speaker, 2d audio; aluminum; Sig C dwg #SC-D-2532, item 38.	Cover for 2D AUDIO jack	2Z5650-S2A
	CX	(*)	(*)	(*)	(*)	(*)	(*)	CRYSTAL DC-6-A: quartz; 470 kc; ceramic w/metal and bakelite cover; 2 3/16" lg x 3/4" wd x .3225" thk; receiving; Sig C dwg #SC-D-2972.	I-f filter	2X90-470

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
25	(*)	(*)	(*)	(*)	(*)	(*)	DIAL: gear driven; calibrated; incl 2 brass gears, 2 studs, brass bushing, 2 backlash springs and 4 rivets; Sig C dwg #SC-D-2547.	Main tuning	2Z1650/16.1
	(*)	(*)	(*)	(*)	(*)	(*)	DIAL: vernier tuning; incl knob, dial plate, spring clutch, and brass insert; Sig C dwg #SC-D-5431-A.	Vernier tuning	2Z5842-5
	(*)	(*)	(*)	(*)	(*)	(*)	FASTENER, latch: panel; steel; $^{27}/_{32}$" lg x $^{5}/_{8}$" dia x $^{3}/_{32}$" thk; Sig C dwg #SC-D-4139, items 1, 2, and 3 (used in models with $^{3}/_{32}$" panels).	For panel	2Z6931/21.1
	(*)	(*)	(*)	(*)	(*)	(*)	FASTENER, latch: panel; steel; $^{15}/_{16}$" lg x $^{5}/_{8}$" dia x $^{3}/_{16}$" thk; Farnsworth part/dwg #98-1340 (used in models with $^{3}/_{16}$" panel).	For panel	2Z6931/21
F2	(*)	(*)	(*)	(*)	(*)	(*)	FUSE, cartridge: $^{1}/_{8}$ amp	DC supply fuse	3Z2585
F1	(*)	(*)	(*)	(*)	(*)	(*)	FUSE, FU-27: 2 amp	Power source fuse	3Z1927
52	(*)	(*)	(*)	(*)	(*)	(*)	FUSEHOLDER: extractor post type; for 3AG fuses.	Holder for fuses	3Z3275

	(*)	(*)	(*)	(*)	(*)	(*)	GEAR KIT: worm; brass; main tuning capacitor drive; c/o worm and worm wheel; Sig C dwg #SC-D-2549-N, items 32 and 33.	For tuning mechanism	2Z4871-85
2	(*)	(*)	(*)	(*)	(*)	(*)	GLASS: clear; dial window; $2^{39}/_{64}$" lg x 1/16" thk x 2" wd at one end, 3/4" wd at other end; Sig C dwg #SC-D-2535-13.	Dial window	2Z7560/2
	(*)	(*)	(*)	(*)	(*)	(*)	HANDLE: panel; brass; 3 1/2" lg x 9/16" wd x $^{29}/_{32}$" h o/a; Haschco #1137.	For panel	2Z4919
36	(*)	(*)	(*)	(*)	(*)	(*)	INSULATOR, feedthrough: round; brown bakelite; $^{15}/_{64}$" lg x approx 3/8" dia; for 1/16" panel; Sig C dwg #SC-D-2553, item 4.	Feedthrough	3G1921
37	(*)	(*)	(*)	(*)	(*)	(*)	INSULATOR, feedthrough: round; natural phenolic; $^{7}/_{32}$" lg; shoulder 3/8" OD x 1/16" thk, body .312" OD x $^{5}/_{32}$" h w/$^{1}/_{32}$" groove around ctr, #42, .9035" drill hole through ctr; incl 1/4" dia x .0253" #22 B & S ga spring ring, eyelet, and terminal; Pat MacGuyer #4029; p/o Sig C Radio Receiver BC-342, BC-342-C, -D, -F, -J, -L, and -N; Sig C dwg #SC-D-2538, items 28, 29, 90, and 93.	Feedthrough	3G1921-1
							INSULATOR, w WASHER, flat).		
J3, J4	(*)	(*)	(*)	(*)	(*)	(*)	JACK, JJ-033: for 3 cond .2065" dia plug	J3: SPEAKER, 2D AUDIO. J4: MICRO.	2Z5533
J1, J2, J5	(*)	(*)	(*)	(*)	(*)	(*)	JACK, JJ-034: for 2 cond .250" dia plug	J1: PHONES 1ST AUDIO J1: PHONES 2ND AUDIO. J5: KEY.	2Z5534

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and descripton	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
	(*)	(*)	(*)	(*)	(*)	(*)	KNOB: round; aluminum alloy; 1/4" dia shaft; single #6-32 x 5/16" setscrew; 1 11/16" dia x 13/16" thk; Sig C dwg #SC-D-2550-47	FAST TUNING	2Z5782
12	(*)	(*)	(*)	(*)	(*)	(*)	KNOB: round; black bakelite; for 1/4" dia shaft; single #8-32 setscrew; marked ALIGN INPUT; w/arrow; 23/32" h x 1" dia o/a; Sig C dwg #SC-D-2532, item 44.	ALIGN INPUT control	2Z5779
	(*)	(*)	(*)	(*)	(*)	(*)	KNOB: round; black bakelite; for 1/4" dia shaft; single #8-32 cup point setscrew; marked CRYSTAL PHASING; w/arrow; 23/32" h x 1" dia; Sig C dwg #SC-D-2561, item 17.	CRYSTAL PHASING control.	2Z5777
15	(*)	(*)	(*)	(*)	(*)	(*)	KNOB: round; black bakelite; for 1/4" dia shaft; single #8-32 setscrew; marked CW OSC ADJUST; w/arrow; 23/32" h x 1" dia o/a; Sig C dwg #SC-D-2561.	CW OSC ADJUST control.	2Z5780

14	(*)	(*)	(*)	(*)	(*)	(*)	KNOB: round; black bakelite; for ¼" dia shaft; single #8-32 setscrew; marked VOL; w/curved arrow; 1" h x 1⅛" dia; Sig C dwg #SC-D-2593.	VOL control	2Z5773
13	(*)	(*)	(*)	(*)	(*)	(*)	KNOB: round: black bakelite; for ¼" dia shaft; #8-32 setscrew mtg; white filled-in dot; 1⅛" dia x ⅝" lg, hub 13/16" dia; Kurz-Kasch #S-308-64-BDL (brass bushing); shaft hole 7/16"; u/w Sig C Radio Set SCR-543-C.	Control	2Z5753.22
11	(*)	(*)	(*)	(*)	(*)	(*)	KNOB: round: zinc alloy; shaft ¼" dia; flatted end; spcl mtg screw #5-32 through axis of knob; marked w/arrow; 1⅛" max h x 1 11/16" dia o/a; Sig C dwg #SC-D-2550, item 56.	BAND CHANGE	2Z5783
24	(*)	(*)	(*)	(*)	(*)	(*)	KNOB: round, fast tuning; black bakelite; incl shaft, eccentric bushing, pinion, sleeve, pin, knob, handle, 2 fiber washers, metal washer, plug button, 4 shim washers and spring, taper pin; Sig C dwg #SC-D-5431 and #SC-D-2549.	FAST TUNING	2Z5782.2
LM1	(*)	(*)	(*)	(*)	(*)	(*)	LAMP, glow: 105-125 v, ¼ w; bulb T-4½ clear; 1 7/16" lg x ⅝" dia; double cont bayonet base; Sig C dwg #SC-D-15920, item 5	Input protector	2Z5889-3
LM-2, LM-3	(*)	(*)	(*)	(*)	(*)	(*)	LAMP LM-27: incandescent; 6-8 v, .25 amp; Mazda #44, bulb T-3¼ clear; 1⅛" lg o/a; miniature bayonet base; Sig C dwg #SC-D-2573, item 3.	Dial lamps	2Z5927

b. *Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2* (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channe. A Receiver			
	1	2	3	4	5	6			
X1	(*)	(*)	(*)	(*)	(*)	(*)	LAMPHOLDER: double cont bayonet type; brass shell, molded bakelite insulation; 1 5/8" lg x 59/64" dia; Sig C dwg #SC-D-15920, item 4.	For neon lamp	2Z5886-21
	(*)	(*)	(*)	(*)	(*)	(*)	LAMPHOLDER: miniature bayonet base; brass body; 1 1/4" lg x 5/8" wd o/a; Sig C dwg #SC-D-2573-2.	Part of lampholder assembly for dial; left-hand socket.	2Z5986/2
	(*)	(*)	(*)	(*)	(*)	(*)	LAMPHOLDER: miniature bayonet base; brass body, 1 1/4" lg x 5/8" wd o/a; Sig C dwg #SC-D-2573-1.	Part of lampholder assembly for dial; right-hand socket.	2Z5986/1
	(*)	(*)	(*)	(*)	(*)	(*)	LAMPHOLDER ASSEMBLY: left- and right-hand mtg for dial lamp wired together; includes insulated and noninsulated lamp mtg; Sig C dwg #SC-D-2573.	For dial lamps	2Z5986
		(*)		(*)			MOUNTING MT-563-MRC: radio receiver; steel, OD finish; rectangular; 18 3/8" lg x 7 1/4" wd; Sig C dwg #SC-D-20975.	Supports receiver	2Z6763-563

		(*)		(*)		(*)	MOUNT, vibration: stock mount M-449; 2 3/8" sq o/a.	For mounting receiver	2Z8415-449
	(*)		(*)		(*)		NUT, thumb: steel, zinc pl; 1/4"-20 NC-2; 1/2" h o/a; 1 1/16" dia across wing spread.	Hardware	6L3806-20C
	(*)	(*)	(*)	(*)	(*)	(*)	PLATE, jack: steel; 4000 ohms etched on one side, 250 ohms on other side; 3/4" wd x 1" h x 1/32" thk o/a; Sig C dwg #SC-D-2536-M, item 89.	Hardware	2Z7093-63
	(*)	(*)	(*)	(*)	(*)	(*)	PLUG, machine thread: padder cover; aluminum alloy; 1/2"-28; 9/16" dia x 9/64" thk; Sig C dwg #SC-D-2535, item 14.	Hardware	2Z6931/1
	(*)	(*)	(*)	(*)	(*)	(*)	PLUG, machine thread: nickel silver; 1/2"-28; 9/16" dia x 1/4" thk; Sig C dwg #SC-D-2535.	Hardware	2Z6931/2
23A	(*)	(*)	(*)	(*)	(*)	(*)	POST, binding: push type; 13/16" lg x 1/2" dia; Sig C dwg #SC-D-2532, item 71.	For antenna	3Z510
23	(*)	(*)	(*)	(*)	(*)	(*)	POST, binding: push type; 1 3/8" lg x 7/16" dia; o/a; Sig C dwg #SC-D-2532, item 78.	For ground	3Z763
	(*)	(*)	(*)	(*)	(*)	(*)	PROTECTOR, electrical surge: neon; ant. overload protection; p/o Sig C Receiver BC-342-C, -D, -F, -J, -L, -N and Army Navy Radio Receiver Assembly OA-65/MRC-2; c/o following Farnsworth parts, 1 Socket #98-5447, 1 Neon Lamp #98-5446, 1 510-mmf Capacitor #98-5445, 2 Spacers #98-5398, 1 Bracket, #98-5397, complete w/mtg hdwe; 4 1/4" lg x 1 1/4" wd x 2 1/16" h; 2 mtg screws #6-32 on 3 1/2" mtg/c; Farnsworth part/dwg #98-5448.	Input protector assembly	2Z5988-28

b. *Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2* (continued)

Ref symbol	Models: Rado Set AN/MRC-2, Channel B Receiver	Models: Rado Set AN/MRC-2, Channel A Receiver	Models: Radio Set AN/MRC-2A, Channel B Receiver	Models: Radio Set AN/MRC-2A, Channel A Receiver	Models: Radio Set AN/MRC-2B, Channel B Receiver	Models: Radio Set AN/MRC-2B, Channel A Receiver	Name of part and description	Function of part	Signal Corps stock No.
	1	2	3	4	5	6			
	(*)	(*)	(*)	(*)	(*)	(*)	RECTIFIER RA-20-A, B: electron tube; full wave; output 250 v DC, 100 ma, 12.5 v AC, 3 amp 5 v AC, 2 amp; 150 v DC, 20 ma; input 110-120 v, 60 cyc, single ph; 7 7/16" lg x 6 57/64" wd x 5 1/32" h o/a; rectifier and voltage regulator tubes.	Power supply for receiver.	2Z7320A
RL1	(*)	(*)	(*)	(*)	(*)	(*)	RELAY BK-13: armature; DPST; normally open; 2 17/64" h x 1 7/16" wd x 1 5/16" d; closes at 7 to 8 v; 60 ohms DC resistance; Sig C dwg #SC-D-1942.	Shorts receiving antenna when transmitter is operating.	2Z7613
R47	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 62 ohms ±5%; ½ w; max body dimen .655" lg x .249" dia; JAN type RC21BF620J.	Filament voltage equalizer	3RC21BF620J
R14	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 360 ohms ±5%; 1 w; JAN type RC30BF361J.	V3 cathode bias	3RC30BF361J
R1, R7, R19, R24	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 510 ohms ±5% 1 w; JAN type RC30BF511J.	R1: V1 cathode bias. R7: V2 cathode bias. R19: V5 cathode bias. R24: V6 cathode.	3RC30BF511J

R28	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 750 ohms ±5%; 1 w; JAN type RC30BF751J.	V7 cathode bias	3RC30BF751J
R5, R11, R17, R22, R27	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 1000 ohms ±10%; ½ w; max body dimen .655" lg x .249" dia; JAN type RC21BF102K.	R5: V1 plate decoupling. R11: V2 plate decoupling. R17: V3 plate decoupling. R22: V5 plate decoupling. R27: V6 plate decoupling.	3RC21BF102K
R31, R54	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 2000 ohms ±5%; 1 w; JAN type RC30BF202J.	R31: V8 cathode bias. R54: V8 cathode bias.	3RC30BF202J
R44	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 3000 ohms ±5%; 1 w; max body dimen .750" lg x .280" dia; JAN type RC30BF302J.	H-f oscillator cathode bias, band C.	3RC30BF302J
R41	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 4700 ohms ±10%; 1 w; max body dimen 1.28" lg x .310" dia; JAN type RC31BF472K.	V4 plate decoupling	3RC31BF472K
R45	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 5100 ohms ±5%; 1 w; max body dimen .750" lg x .280" dia; JAN type RC30BF512J.	H-f oscillator cathode bias, band B.	3RC30BF512J
R46	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 7500 ohms ±5%; 1 w; max body dimen .750" lg x .280" dia; JAN type RC30BF752J.	H-f oscillator cathode bias, band A.	3RC30BF752J
R63, R64	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 7500 ohms ±5%; ½ w; max body dimen .655" lg x .249" dia; JAN type RC21BF752J.	R63: V3 screen decoupling R64: V3 screen decoupling	3RC21BF752J
R51, R52	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 10,000 ohms ±10%; max body dimen .655" lg x .249" dia; JAN type RC21BF103K.	R51: C-w oscillator output R52: V5 grid decoupling.	3RC21BF103K
R42	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 30,000 ohms ±5%; ½ w; max body dimen .655" lg x .249" dia; JAN type RC21BF303J.	H-f oscillator grid leak	3RC21BF303J

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models: Radio Set AN/MRC-2, Channel B Receiver	Models: Radio Set AN/MRC-2, Channel A Receiver	Models: Radio Set AN/MRC-2A, Channel B Receiver	Models: Radio Set AN/MRC-2A, Channel A Receiver	Models: Radio Set AN/MRC-2B, Channel B Receiver	Models: Radio Set AN/MRC-2B, Channel A Receiver	Name of part and description	Function of part	Signal Corps stock No.
	1	2	3	4	5	6			
R41					(*)		RESISTOR, fixed: comp; 30,000 ohms ±5%; 1 w; JAN type 3RC30BF303J.	V4 plate decoupling	3RC30BF303
R3, R9, R21, R26	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 39,000 ohms ±10%; ½ w; max body dimen .468″ lg x .249″ dia; JAN type RC20BF393K.	R3: V1 screen voltage dropping. R9: V2 screen voltage dropping. R21: V5 screen voltage dropping. R26: V6 screen voltage dropping.	3RC20BF393K
R13, R33	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 51,000 ohms ±5%; ½ w; max body dimen .655″ lg x .249″ dia; JAN type RC21BF513J.	R13: V3 injector grid return. R33: V8 grid return.	3RC21BF513J
R2, R8, R38, R48	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 62,000 ohms ±5%; ½ w; max body dimen .468″ lg x .249″ dia; JAN type RC20BF623J.	R2: V1 screen voltage divider. R8: V2 screen voltage divider.	3RC20BF623J

								R38: Voltage dropping. R48: V3 screen voltage divider.	
R20, R25	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 62,000 ohms ±5%; 1 w; max body dimen .750″ lg x .280″ dia; JAN type RC30BF623J.	R20: V5 screen voltage divider. R25: V6 screen voltage divider.	3RC30BF623J
R4, R10, R16, R18	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 100,000 ohms ±10%; ½ w; max body dimen .655″ lg x .249″ dia; JAN type RC10BF104K.	R4: V1 grid decoupling R10: V2 grid decoupling. R16: V3 grid decoupling. R18: V5 grid return.	3RC10BF104K
R36, R37	(*)	(*)	(*)	(*)			RESISTOR, fixed: comp; 100,000 ohms ±10%; 1 w; max body dimen .750″ lg x .280″ dia; JAN type RC30BF104K.	R36: Cathode voltage divider. R37: V9 plate dropping.	3RC30BF104K
R23, R37	(*)	(*)	(*)	(*)	(*) (*)	(*) (*)	RESISTOR, fixed: comp; 100,000 ohms ±10%; ½w; JAN type RC20BF104K.	R23: V6 grid return R37: V9 plate dropping.	3RC20BF104K
R48	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 200,000 ohms ±5%; ½ w; max body dimen .655″ lg x .249″ dia; JAN type RC21BF204J.	V9 grid leak	3RC21BF204J
R29, R32	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 240,000 ohms ±5%; ½ w; max body dimen .655″ lg x .249″ dia; JAN type RC21BF244J.	R29: Avc filter R32: V7 grid return.	3RC21BF244J
R49	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 510,000 ohms ±5%; ½ w; max body dimen .655″ lg x .249″ dia; JAN type RC21BF514J.	V7 diode load	3RC21BF514J
R30	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 1 meg ±10%; ½ w; .468″ lg x .249″ dia; JAN type RC20BF105K.	V7 diode avc	3RC20BF105K
R6, R12, R53	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, fixed: comp; 2 meg ±5% ½ w; .468″ lg x .249″ dia; JAN type RC20-BF205J.	R6: V2 grid return R12: V3 signal grid return. R53: V1 grid return.	3RC20BF205J

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
R62		(*)		(*)		(*)	RESISTOR, fixed: comp; 2.2 meg ±10%; ¼ w; max body dimen .406″ lg x .170 dia; JAN type RC10BF225K.	V4 output to J108	3RC10BF225K
R34, R35	(*)	(*)	(*)	(*)	(*)	(*)	RESISTOR, variable: Sig C Potentiometer RS-174; carbon; 2 sect.; 500,000-50,000 ohms; 1 w; 1⅛″ dia x ⅞″ d, shaft 21/32″ lg x ¼″ dia; Sig C dwg #SC-D-1982.	R34: VOL control R35: VOL control.	2Z7289
	(*)	(*)	(*)	(*)	(*)	(*)	SCREW, machine: Fil H; brass; #6-32; 19/32″ lg o/a; w/3/16″ lg thd; head ¼″ across flats, 3/32″ thk; Sig C dwg #SC-D-2546-4; (2° taper from head to thd 5/16″ lg; p/o Sig C Radio Receiver BC-312 and BC-314).	Hardware	6L6632-9.10
	(*)	(*)	(*)	(*)	(*)	(*)	SCREW, set: slotted drive; headless; #10-32 NF-2; thd, ⅜″ lg.	Hardware	6L18510-6.8P
32	(*)	(*)	(*)	(*)	(*)	(*)	SHAFT: band change for actuating wafer sw; stainless steel; 10 7/16″ lg x .253″ wd x 0.655″ thk; Sig C dwg #SC-D-2549-N, item 42.	For BAND CHANGE switch.	2Z1650/42

	(*)	(*)	(*)	(*)	(*)	(*)	SHAFT: dial and shutter; gear; nickel silver; 1 5/16" lg x .2495" dia o/a; Sig C dwg #SC-D-2550-P, item 49.	For dial and shutter mechanism.	2Z8203-122
	(*)	(*)	(*)	(*)	(*)	(*)	SHAFT: extension; crystal phasing; phenolic; 4 9/16" lg x .3125" dia w/brass ferrule 7/16" lg x .314" ID; Sig C dwg #SC-D-2566M, items 33 and 34 (p/o ref SW10).	Part of CRYSTAL PHASING switch.	2Z8203-120
	(*)	(*)	(*)	(*)	(*)	(*)	SHAFT: vernier dial; nickel silver; 2 13/32" lg x .2495" dia; Sig C dwg #SC-D-2550-P, item 51.	For VERNIER tuning	2Z8203-119
	(*)	(*)	(*)	(*)	(*)	(*)	SHAFT: worm gear; nickel silver; 2 11/16" lg x .2495" dia o/a; Sig C dwg #SC-D-2550-P, item 50.	Part of drive mechanism	2Z8203-121
	(*)	(*)	(*)	(*)	(*)	(*)	SHAFT: dial; fast tuning	For main tuning dial	2Z8203-118
26	(*)	(*)	(*)	(*)	(*)	(*)	SHUTTER, dial: incl brass spur gear and 4 rivets; Sig C dwg #SC-D-2545, items 19, 20, 67, and 89.	Part of dial mechanism, covers unused portion of dial.	2Z8550
	(*)	(*)	(*)	(*)	(*)	(*)	SOCKET, tube: std octal; isolantite; 2 3/16" lg x 1 3/8" wd o/a; Millen #33008 (for oscillator).	For V4	2Z8670.1
20	(*)	(*)	(*)	(*)	(*)	(*)	SOCKET, tube: std octal; molded mica filled bakelite or ceramic; 1 1/4" dia x 1/2" h; Cinch #9863-1018.	For tubes V1, V2, V3, V5, V6, V7, V8, V9.	2Z8762.2
	(*)	(*)	(*)	(*)	(*)	(*)	SPRING: compression; band change sw; steel music wire; 1 3/64" lg x 3/32" OD o/a; Sig C dwg #SC-D-2545, item 41.	For BAND CHANGE mechanism.	2Z1650/46
38	(*)	(*)	(*)	(*)	(*)	(*)	SPRING: compression; sw detent plunger; .051" dia steel music wire; 1 11/16" lg x 3/32" OD o/a; Sig C dwg #SC-D-5431, item 6.	For switch	2Z1650/17.2

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
30	(*)	(*)	(*)	(*)	(*)	(*)	SPRING: extension; antibacklash gear; .16″ steel music wire; $1\frac{1}{16}$″ lg x $\frac{1}{8}$″ dia; Sig C dwg #SC-D-2547, item 14.	For antibacklash gear	2Z1650/7.3
31	(*)	(*)	(*)	(*)	(*)	(*)	SPRING: extension; antibacklash gear; .14″ steel music wire; $\frac{3}{8}$″ lg x $\frac{3}{32}$″ dia; Sig C dwg #SC-D-2549, item 36.	For antibacklash gear	2Z1650/7.4
	(*)	(*)	(*)	(*)	(*)	(*)	SPRING: flat; detent; steel; includes ball bearing and ball seat; $1\frac{17}{32}$″ lg x $\frac{9}{32}$″ dia o/a; Sig C dwg #SC-D-2545.	For switch	2Z1650/3
	(*)	(*)	(*)	(*)	(*)	(*)	STUD: aluminum alloy; $1\frac{3}{16}$″ lg x $\frac{1}{4}$″ dia o/a; Sig C dwg #SC-D-1559-A (threaded 1 end #8-32 x $\frac{5}{32}$″ lg w/$\frac{1}{32}$″ under-cut; other end has slot $\frac{1}{16}$″ wd x $\frac{1}{16}$″ d; end rounded $\frac{1}{16}$″ rad; p/o Sig C Radio Receiver BC-342, BC-342-C, -D, -F, -J, -L and -N).	Hardware	6L31132-15AL

SW12	(*)	(*)	(*)	(*)	(*)	(*)	SWITCH SW-119: rotary; 1¼" dia x 1 3/16" lg; Sig C dwg #SC-D-2574.	A.V.C.-M.V.C.-OFF	3Z8119
SW1	(*)	(*)	(*)	(*)	(*)	(*)	SWITCH SW-131: toggle; SPST; bakelite; 1 3/16" lg x ½" wd x 17/32" d behind panel; Sig C dwg #SC-A-1042.	REC.-SEND	3Z8131
SW11	(*)	(*)	(*)	(*)	(*)	(*)	SWITCH, JAN No. ST10A: toggle; SPST; metal body, bakelite insulation; 15/16" h x ½" wd x 1 3/16" lg; Sig C dwg #SC-A-1042.	C.W.-OSC	6C201C/S2
SW2, SW3, SW4, SW5, SW6, SW7, SW8, SW9	(*)	(*)	(*)	(*)	(*)	(*)	SWITCH SECTION, rotary; band change; wafer ceramic body; silver pl cont and rotor 1 7/8" x 5/16" thk; Sig C dwg #SC-D-4046, item 57.	SW2: BAND CHANGE, V1 grid. SW3: BAND CHANGE, antenna. SW4: BAND CHANGE, V2 grid. SW5: BAND CHANGE, V1 plate. SW6: BAND CHANGE, V3 grid. SW7: BAND CHANGE, V2 plate. SW8: BAND CHANGE, h-f oscillator. SW9: BAND CHANGE, h-f oscillator.	3Z8310-2.1
T2	(*)	(*)	(*)	(*)	(*)	(*)	TRANSFORMER C-160-A: AF; output; turns ratio 5000: 1885/470; upright shielded steel case; 2 1/32" x 1 5/8" x 2 1/32"; Sig C dwg #SC-D-2569.	Matches V8 to speaker or phones.	2Z9760A

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
T1	(*)	(*)	(*)	(*)	(*)	(*)	TRANSFORMER C-205: AF; interstage; turns ratio 5000: 2500/800; upright shielded case; 1¾" h x 2" lg x 1⅝" wd; Sig C dwg #S)-D-2561.	Couples first audio to second audio.	2Z9805
L28	(*)	(*)	(*)	(*)	(*)	(*)	TRANSFORMER, IF: coil only; input; 2 windings, pri and secd; unshielded; 3 15/16" lg x ⅝" dia o/a; Sig C dwg #SC-D-2566 (w/crystal phasing; p/o Transformer C-282).	Couples mixer to 1st i-f	2Z9882.1/1
L29	(*)	(*)	(*)	(*)	(*)	(*)	TRANSFORMER, IF: coil only; interstage; 2 windings, pri and secd; unshielded; 3 15/16" lg x ⅝" dia o/a; Sig C dwg #SC-D-2566 (p/o Transformer C-283).	Couples 1st i-f to 2d i-f	2Z9883/1
L30	(*)	(*)	(*)	(*)	(*)	(*)	TRANSFORMER, IF: coil only; output; 2 windings, pri and secd; unshielded; 3 15/16" lg x dia o/a; Sig C dwg #SC-D-2566 (p/o Transformer C-284).	Couples 2d i-f to detector stage.	2Z9884/1

	(*)	(*)	(*)	(*)	(*)	TRANSFORMER C-282: IF; 470 kc; input; shielded 3¾" h x 1.632" wd x 2.664" d; incl 6 fixed capacitors, 3 fixed resistors; Sig C dwg #SC-D-4166.	Crystal filter unit	2Z9882
	(*)	(*)	(*)	(*)	(*)	TRANSFORMER C-283: IF; 470 kc; interstage; shielded; 3½" h x 1.671" wd x 1 43/64" d; incl 4 fixed capacitors, 1 fixed resistor; Sig C dwg #SC-D-4166.	Interstage i-f	2Z9883
	(*)	(*)	(*)	(*)	(*)	TRANSFORMER C-284: IF; 470 kc; output; shielded 3½" h x 1.671" wd x 1 43/64" d; incl 3 fixed capacitors.	Interstage i-f	2Z9884
V9	(*)	(*)	(*)	(*)	(*)	TUBE, electron: type 6C5	BFO	2J6C5
V8	(*)	(*)	(*)	(*)	(*)	TUBE, electron: type 6F6	2d audio amplifier	2J6F6
V4		(*)	(*)	(*)	(*)	TUBE, electron: type 6J5 (for oscillator)	H-f oscillator	2J6J5
V1, V2	(*)	(*)	(*)	(*)	(*)	TUBE, electron: type 6K7	V1: 1st r-f amplifier V2: 2d r-f amplifier.	2J6K7
V3	(*)	(*)	(*)	(*)	(*)	TUBE, electron: type 6L7	Mixer	2J6L7
V7	(*)	(*)	(*)	(*)	(*)	TUBE, electron: type 6R7	2d detector, avc, and 1st audio.	2J6R7
	(*)	(*)	(*)	(*)	(*)	TUNING UNIT, RF: c-w oscillator; 470 kc; c/o complete c-w oscillator assembly; Sig C dwg #SC-D-2561.	BFO tuning unit	2C2775
50	(*)	(*)	(*)	(*)	(*)	TUNING UNIT, RF: 1st detector; freq range 1500 to 18,000 kc, 6 bands; 5" x 5⅜" x 2 1/16" o/a; c/o 2 wafer sw, 6 coils 6 variable capacitors, 4 fixed capacitors, 2 resistors and term. board; Farnsworth part/dwg #2538-36 (for Farnsworth models only).	Mixer input transformer	2C4342N/A1

b. Identification Table of Parts for Radio Receiver Assemblies OA-65/MRC-2 and OA-65A/MRC-2 (continued)

Ref symbol	Models						Name of part and description	Function of part	Signal Corps stock No.
	Radio Set AN/MRC-2		Radio Set AN/MRC-2A		Radio Set AN/MRC-2B				
	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver	Channel B Receiver	Channel A Receiver			
	1	2	3	4	5	6			
	(*)	(*)	(*)	(*)	(*)	(*)	TUNING UNIT, RF: 1st detector; freq range 1500 to 18,000 kc, 6 bands; 5″ x 5⅜″ x 2 1/16″ o/a; c/o 2 wafer sw, 6 coils, 6 variable capacitors, 4 fixed capacitors, 2 resistors and term. board; RCA part/dwg #T621254-501 (for RCA models only).	Mixer input transformer	2C4312M.1/T4
48	(*)	(*)	(*)	(*)	(*)	(*)	TUNING UNIT, RF: 1st RF; freq range 1500 to 18,000 kc, 6 bands; 5″ x 5⅜″ x 2 1/16″ o/a; c/o 2 wafer sw, 6 coils, 6 variable capacitors, 4 fixed capacitors, 2 resistors and term. board; assembly shielded; Farnsworth part/dwg #2538-37 (for Farnsworth models only).	For 1st r-f input	2C4342N/A2

	(*)	(*)	(*)	(*)	(*)	(*)	TUNING UNIT, RF: 1st RF; freq range 1500 to 18,000 kc, 6 bands; 5" x 5⅜" x 2 1/16" o/a; c/o 2 wafer sw, 6 coils, 6 variable capacitors, 4 fixed capacitors, 2 resistors and term. board; assembly shielded; RCA part/dwg #T-621254-502 (for RCA models only).	For 1st r-f input	2C4312M.1/T2
49	(*)	(*)	(*)	(*)	(*)	(*)	TUNING UNIT, RF: 2d RF; freq range 1500 to 18,000 kc, 6 bands; 5" x 5⅜" x 2 1/16" o/a; c/o 2 wafer sw, 6 coils, 6 variable capacitors, 4 fixed capacitors, 2 resistors and term. board; Farnsworth part/dwg #2538-38 (for Farnsworth models only).	For 2d r-f input	2C4342N/A3
	(*)	(*)	(*)	(*)	(*)	(*)	TUNING UNIT, RF: 2d RF; freq range 1500 to 18,000 kc, 6 bands; 5" x 5⅜" x 2 1/16" o/a; c/o 2 wafer sw, 6 coils, 6 variable capacitors, 4 fixed capacitors, 2 resistors and term. board; RCA part/dwg #T-621254-503 (for RCA models only).	For 2d r-f input	2C4312M.1/T3
	(*)	(*)	(*)	(*)	(*)	(*)	VENT, air: brass; ¾" dia x 3/16" h, to fit 17/32" hole; RCA part/dwg #381525, part 1.	Vent	2ZA855
	(*)	(*)	(*)	(*)	(*)	(*)	WASHER, flat: grey fiber; .261" ID, ½" OD x 1/32" thk; Sig C dwg #SC-D-2550-61.	Used as slip clutch	3G1770-32.8

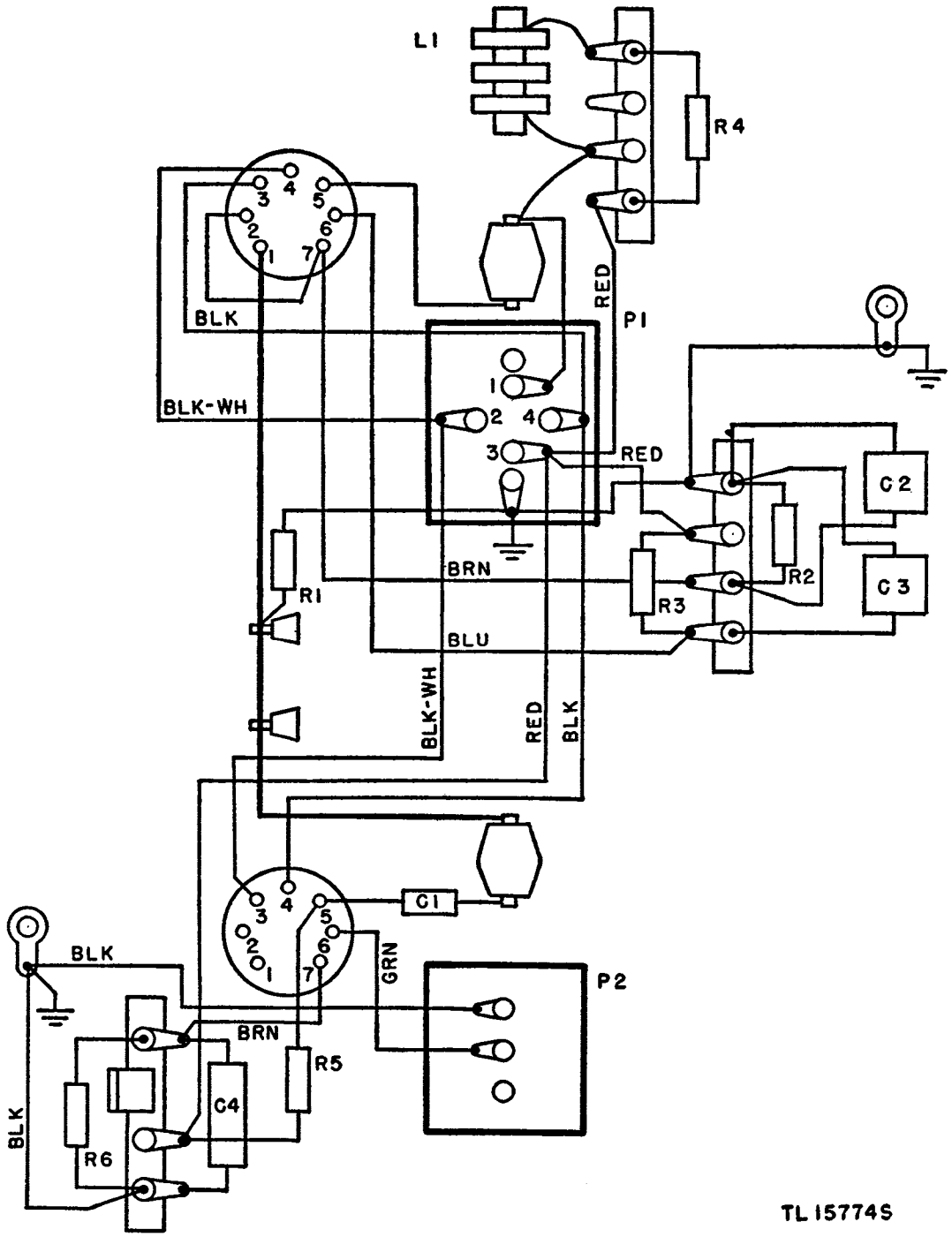

Figure 92 (Added). *Oscillator-Amplifier O–59(*)/MRC, practical wiring diagram.*

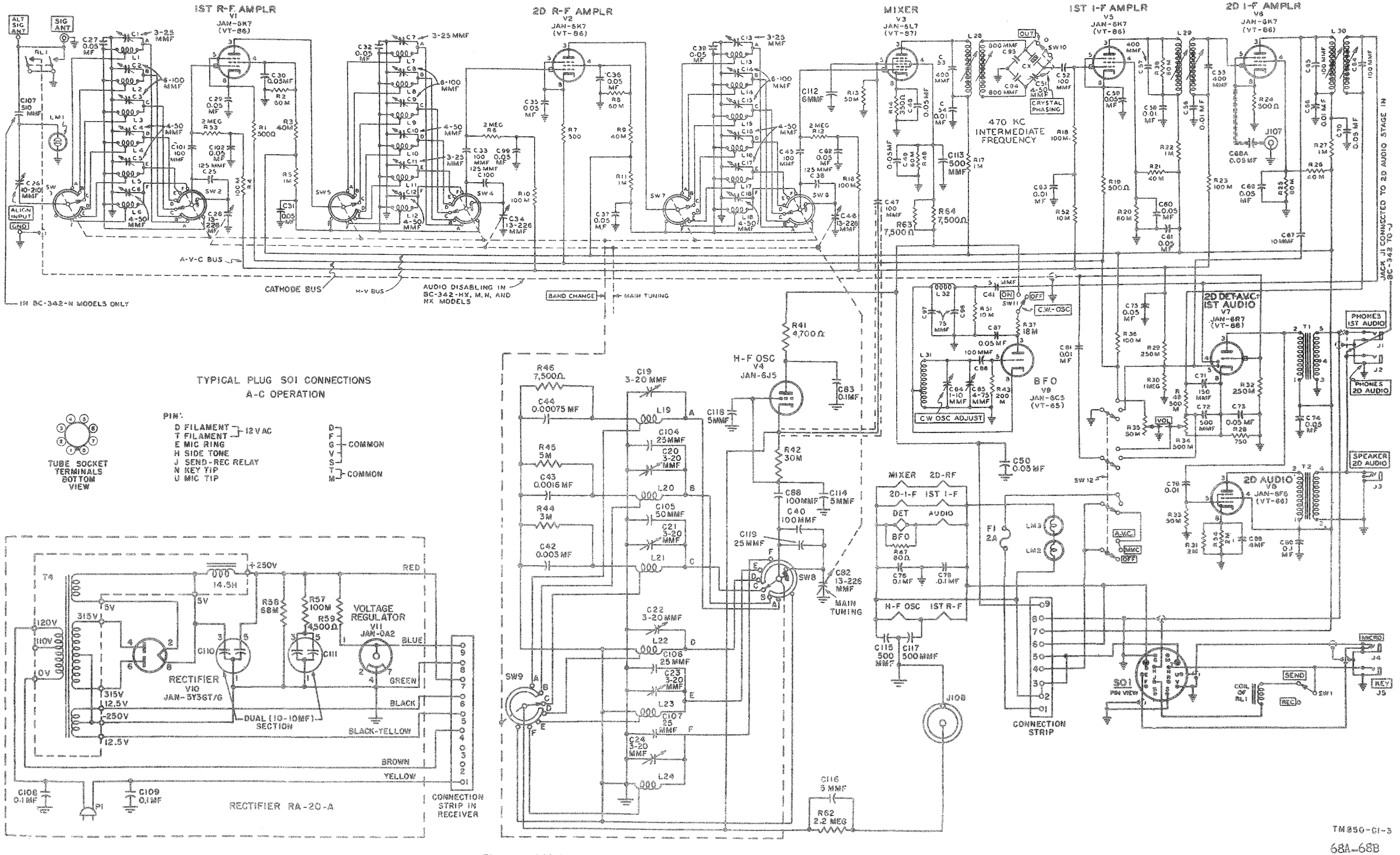

Figure 93 (Added). *Channel A Reciever for AN/MRC-2 and AN/MRC-2A, schematic diagram.*

TYPICAL PLUG SOI CONNECTIONS
A-C OPERATION

PIN:
D FILAMENT
T FILAMENT — 12 V AC
E MIC RING
H SIDE TONE
J SEND-REC RELAY
N KEY TIP
U MIC TIP

D, F, G, V, S — COMMON
T, M — COMMON

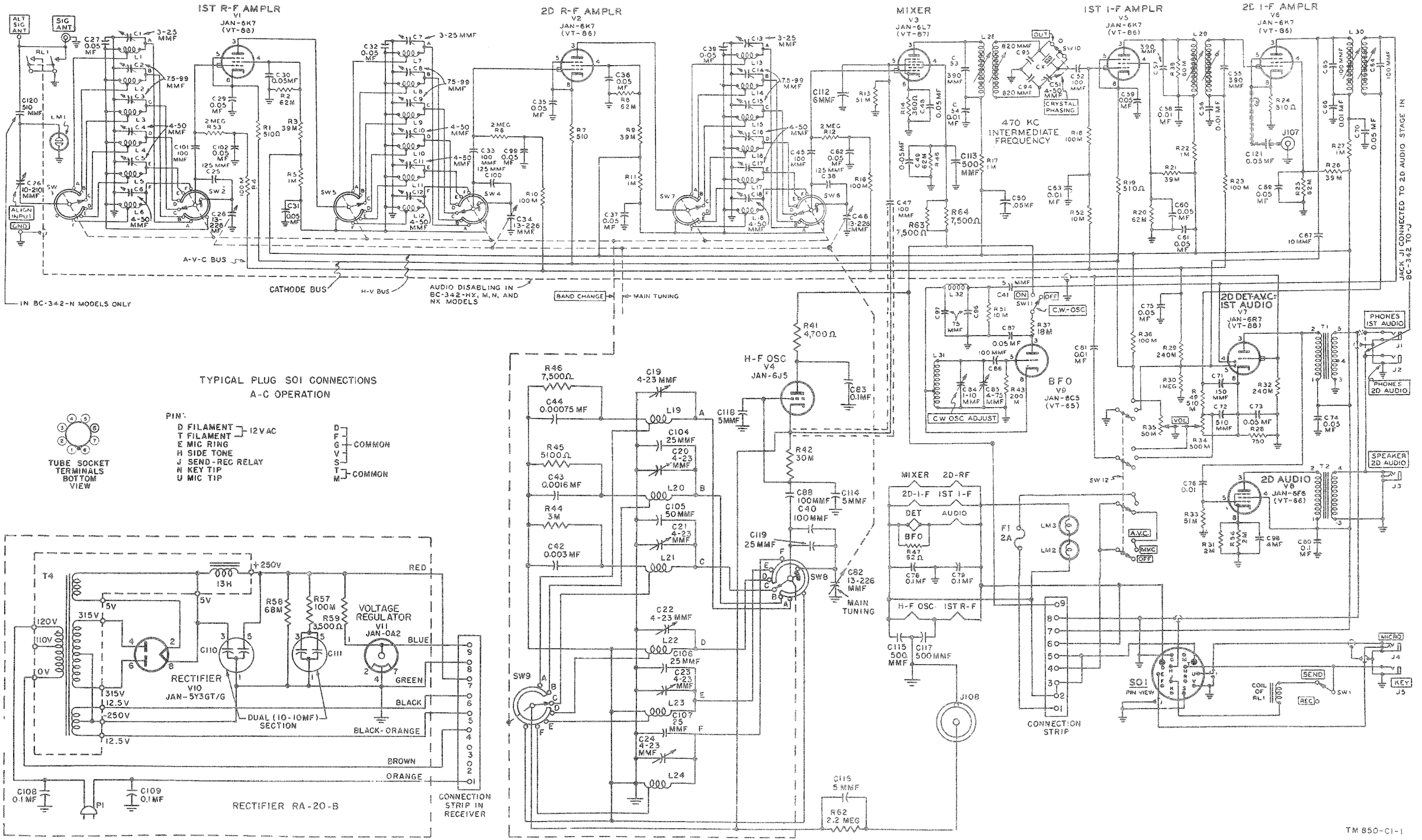

Figure 94 (Added). *Channel A Receiver for AN/MRC-2B, schematic diagram.*

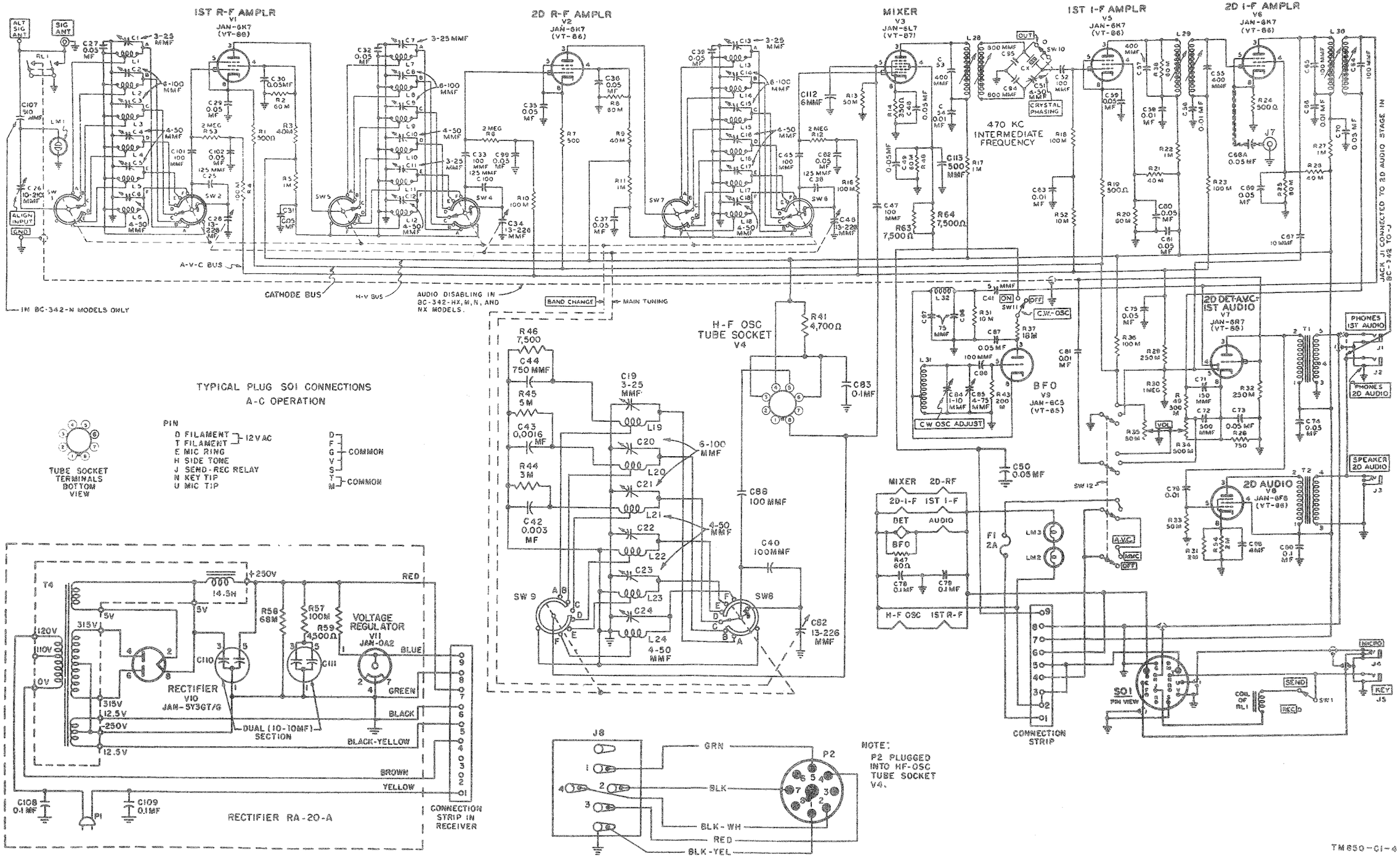

Figure 95 (Added). *Channel-B Receiver for AN/MRC-2 and AN/MRC-2A, schematic diagram.*

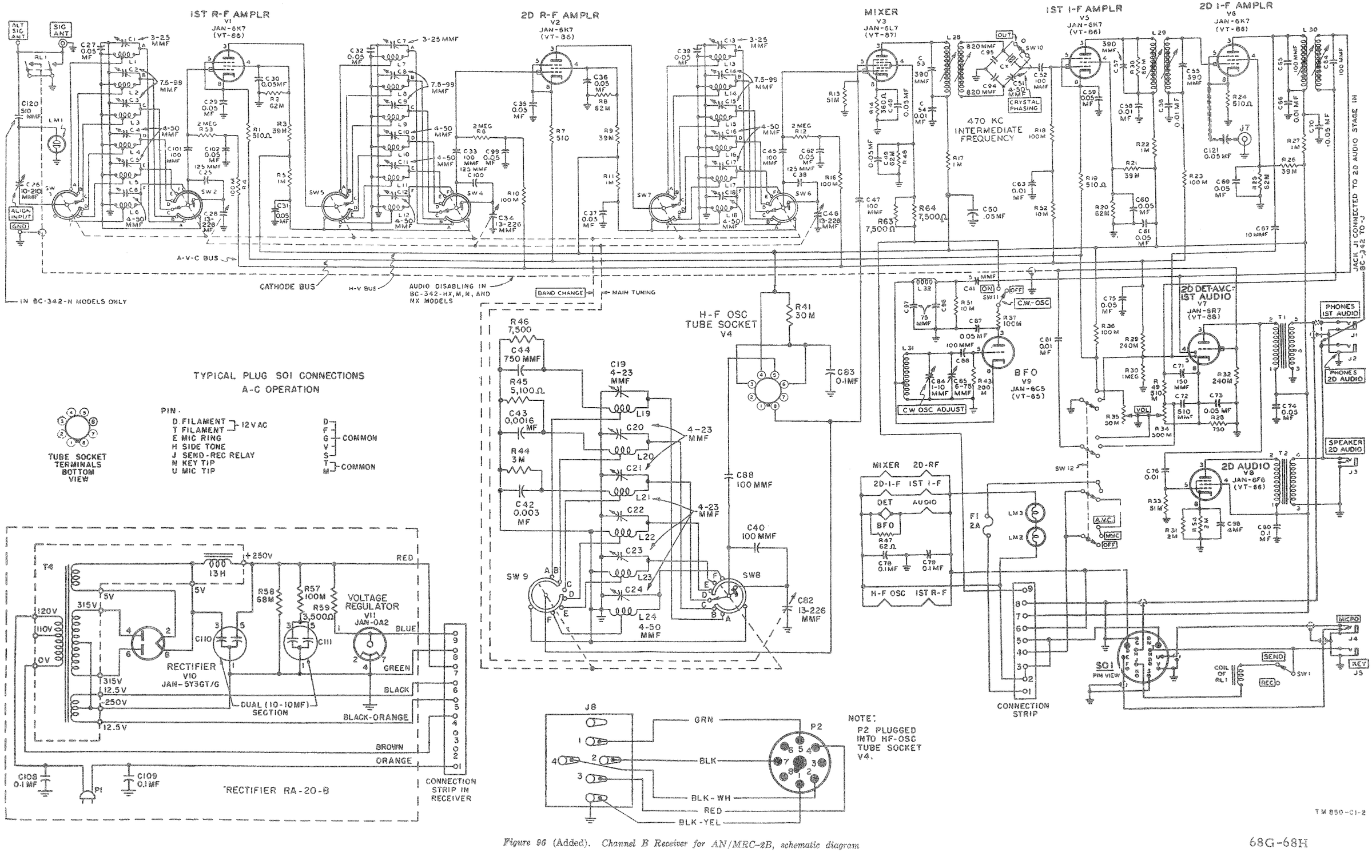

Figure 96 (Added). *Channel B Receiver for AN/MRC-2B, schematic diagram*

[AG 300.7 (9 Apr 52)]

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