

# **K4XL's BAMA**

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# INSTALLATION INSTRUCTIONS

FOR

**PANORAMIC COUPLING KITS FOR MODELS RBU/RBV  
PANORAMIC ADAPTORS FOR USE WITH MODELS  
RBB/RBC RECEIVERS**

**NAVSHIPS 900,501-IB**

**RESTRICTED**

(FOR OFFICIAL USE ONLY)

**MANUFACTURED**

**BY**

**RCA VICTOR DIVISION RADIO CORPORATION OF AMERICA**

**Camden, New Jersey, U.S.A.**

**FOR**

**U. S. NAVY DEPT.**

**BUREAU OF SHIPS**

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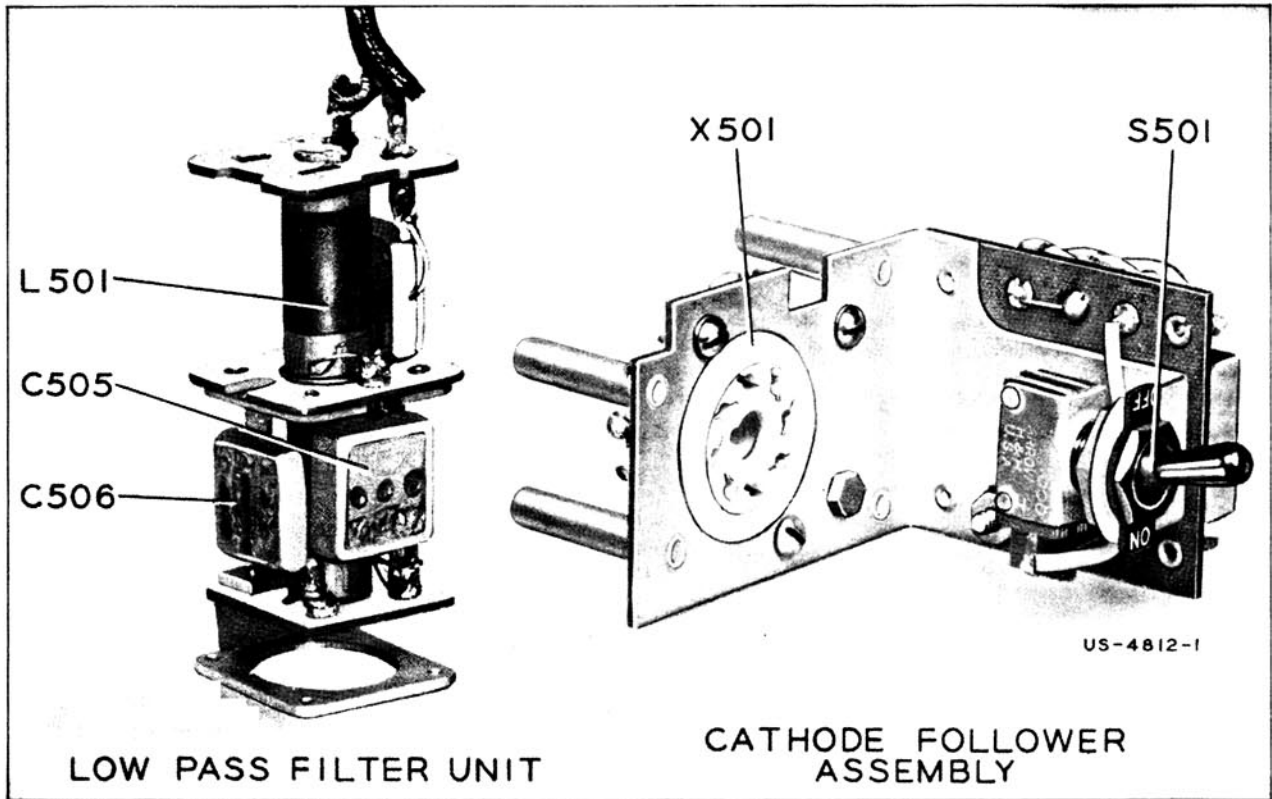


Figure 1-1—Cathode Follower Assembly and Low Pass Filter Unit (Top View)

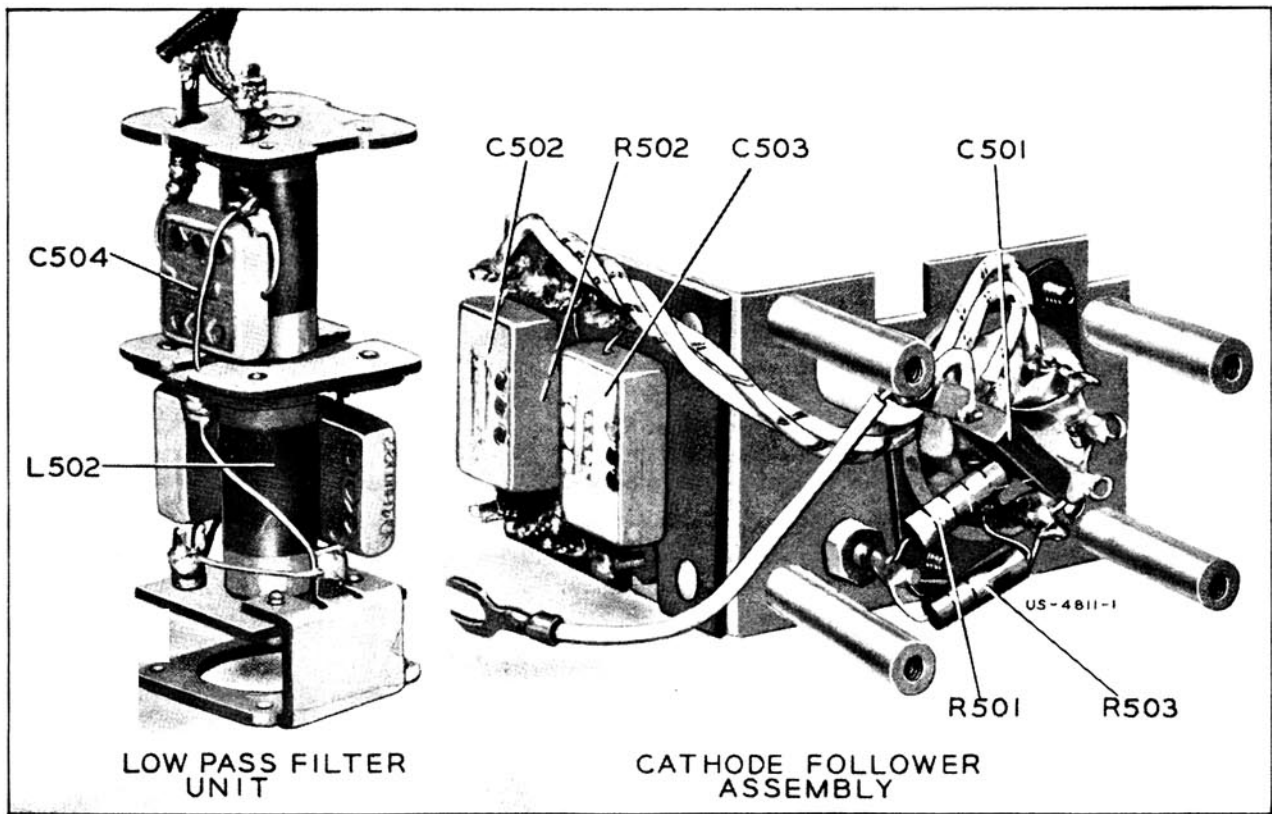


Figure 1-2—Cathode Follower Assembly and Low Pass Filter Unit (Bottom View)

I  
DESCRIPTION

The Panoramic Coupling Kit, Type CLP-10335, is intended to adapt any RBB/RBC series of Radio Receiving Equipment for use with a RBU/RBV Panoramic Adaptor Unit. When installed in a Model RBB/RBC Radio Receiver as described in this book, the coupling kit provides the means for feeding signals to the RBU/RBV Panoramic Adaptor Unit. The kit has been designed for field installation.

1. Cathode Follower Assembly and Low Pass Filter Unit.

The Panoramic Coupling Kit consists of two sub-assemblies, (1) a cathode follower assembly, and (2) a low pass filter unit, together with the necessary mounting hardware and cables. When properly installed, the circuits are such as to prevent interaction between the receiver and the

panoramic adaptor and to minimize interference from local transmitters. The low pass filter is designed to pass the receiver intermediate frequency (400 kc, ± 100 kc) with minimum attenuation.

The cathode follower assembly includes toggle switch (S501), terminal board (TB501), -6AB7 tube (V501), socket (X501), three resistors (R501, R502, R503), three capacitors (C501, C502, C503) and an input lead. The low pass filter unit includes two coils (L501, L502), three capacitors (C504, C505, C506) and an input cable. These assemblies are shipped completely wired and assembled. Refer to Figures 1-1 and 1-2 for identification of components.

2. Equipment Supplied.

The Panoramic Coupling Kit, Type CLP-10335, consists of the following items:

Item	Sub. Item	Qty.	Description	RCA Dwg. No.	Part No.
1	A	1	Tube Shelf Assembly.....	P-717888	501
		1	Type JAN-6AB7 (V501 in place)		
2		1	Coil Assembly L501, L502, C504, C505, C506.....	M-430372	501
3		1	Container Including:		
	A	4	Shock Mountings .....	K-856017	14
	B	1	Shield Can .....	K-870738	501
	C	1	Shield Can Cover .....	K-78945	2
	D	1	Insulating Board .....	K-890710	1
	E	2	Strips, Aluminum, 12 $\frac{3}{4}$ x 1.....	K-890730	1
	F	1	Receptacle .....	K-891621	1
	G	1	Grounding Spring .....	K-890709	1
	H	1	Cable (10" lg. with two plugs).....	M-430391	501
	I	1	Cable (21 $\frac{1}{2}$ " lg.) .....	K-890721	501
4		1	Container Including Hardware		
	A	2	Screws, Brass, No. 6-32 x $\frac{3}{8}$ , FH .....	K-57466	59
	B	4	Screws, Brass, No. 8-32 x $\frac{7}{16}$ , FH .....	K-57468	61
	C	4	Screws, Brass, No. 6-32 x $\frac{3}{8}$ , RH .....	K-57456	59
	D	8	Screws, Brass, No. 8-32 x $\frac{1}{2}$ , RH .....	K-57458	63
	E	4	Screws, Brass, No. 4-40 x $\frac{7}{16}$ , Bind. H. ....	K-82287	57
	F	4	Washers, Bakelite, $\frac{1}{8}$ I.D. x $\frac{5}{16}$ O.D. x $\frac{1}{8}$ .....	K-865390	8
	G	0	Not Used.		
	H	1	Washer, Aluminum, 2 $\frac{7}{32}$ I.D. x 1 $\frac{3}{4}$ O.D. x $\frac{1}{8}$ ..	K-890785	2
	I	1	Washer, Aluminum, 1 $\frac{25}{32}$ I.D. x 2 $\frac{3}{4}$ O.D. x $\frac{1}{8}$ ..	K-890785	3
	J	4	Lockwashers, Stain Steel, No. 4 .....	K-59048	30
	K	6	Lockwashers, Stain Steel, No. 6 .....	K-59048	31
	L	12	Lockwashers, Stain Steel, No. 8 .....	K-59048	32
	M	2	Nuts, Brass, No. 6-32 .....	K-57435	54
	N	12	Nuts, Brass, No. 8-32 .....	K-57435	55
	O	2	Conductors 1 $\frac{1}{2}$ " lg. x .040 dia.....		
	P	2	Spaghetti, Yellow, 1" lg. x .053 I.D.		
5		1	Envelope Including:		
	A	2	Decalcomanias .....	K-891675	1
	B	2	Decalcomanias .....	K-891675	2
6		1	Sheet of Templates (3).....	29944	1
7			Instruction Books .....	IB-38359	

3. Equipment Required But Not Supplied With This Kit.

Quantity	Name of Unit	Navy Type Designation	Required Characteristics
1	Radio Receiving Equipment Panoramic Adaptor Unit	RBB/RBC Series RBU/RBV Series	Refer to Instruction Book Refer to Instruction Book

4. Circuit Description.

Refer to Figures 1-3 and 1-5, the schematic and connection diagrams respectively. The panoramic coupling components provide the means for connecting a high impedance source to a low impedance load. The signal voltage is coupled from the plate of the first detector tube (V104 or V204, see RBB/RBC Instruction Book) by means

of capacitor C501. The output voltage appears across the cathode resistor (R501). The grid circuit of V501 adds a small amount of capacity across the first detector (V104 or V204) plate circuit. This capacity must be compensated for by adjusting the primary core of the first intermediate frequency coil (T302) in the IF-AF unit of the RBB/RBC receivers.

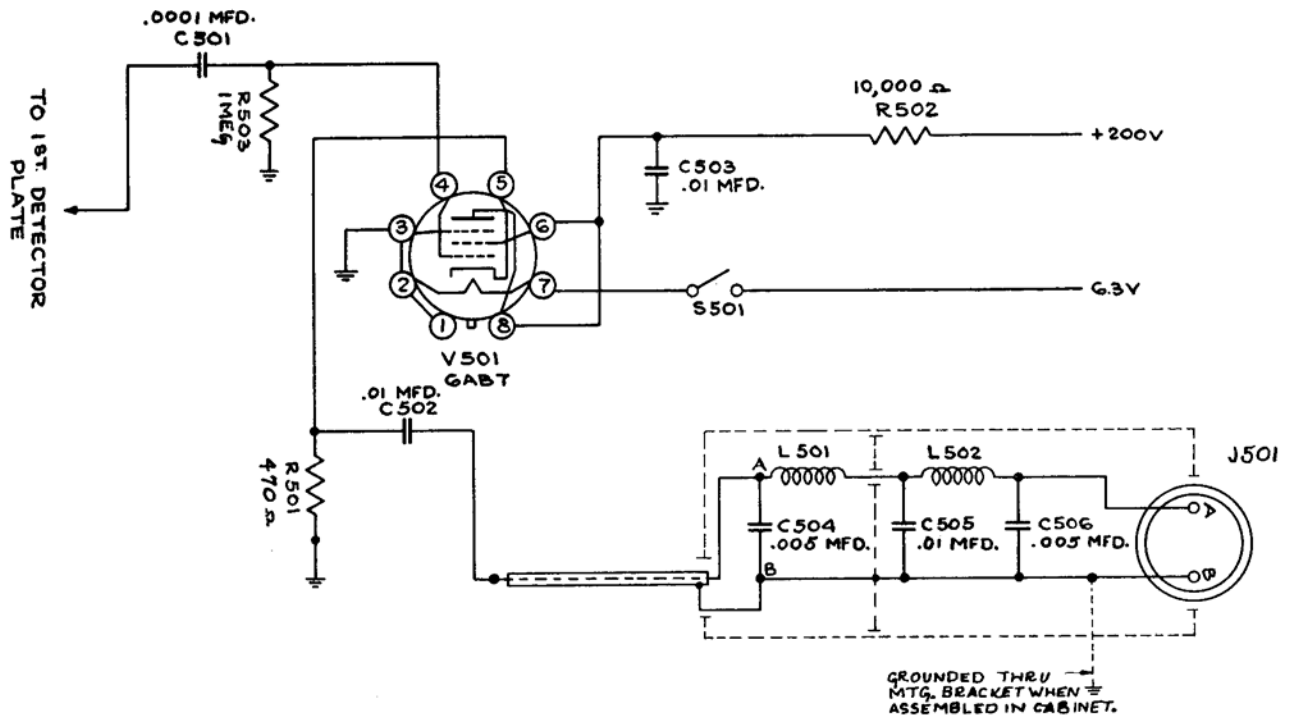


Figure 1-3—Panoramic Coupling Circuit Schematic (P-722278-A)

Since the impedance across resistor R501 is low, a low impedance line is coupled across the cathode resistor (R501) by means of capacitor C502. A completely shielded, two-section, low pass filter is inserted in series with the low impedance line and the output plug (J501). The coil and capacitor assembly (L501, L502, C504,

C505, C506) comprises the filter. This filter passes frequencies below 550 kilocycles with very little attenuation, while those frequencies higher than 550 kilocycles are rapidly attenuated. The cathode follower tube (V501) prevents loading or interaction in the plate circuit of the first detector tube (V104 or V204).

The ground system is not completed until the shield spring around J501 contacts the shield cabinet. Should the receiver be operated outside the shield cabinet with the Panoramic Adaptor Unit, it will be necessary to complete the ground sys-

tem by connecting the shield of J501 to the RBB/RBC receiver chassis. The filter output is connected to the Panoramic Adaptor Unit by means of a two-wire cable which is furnished with the kit (see Figure 1-4).

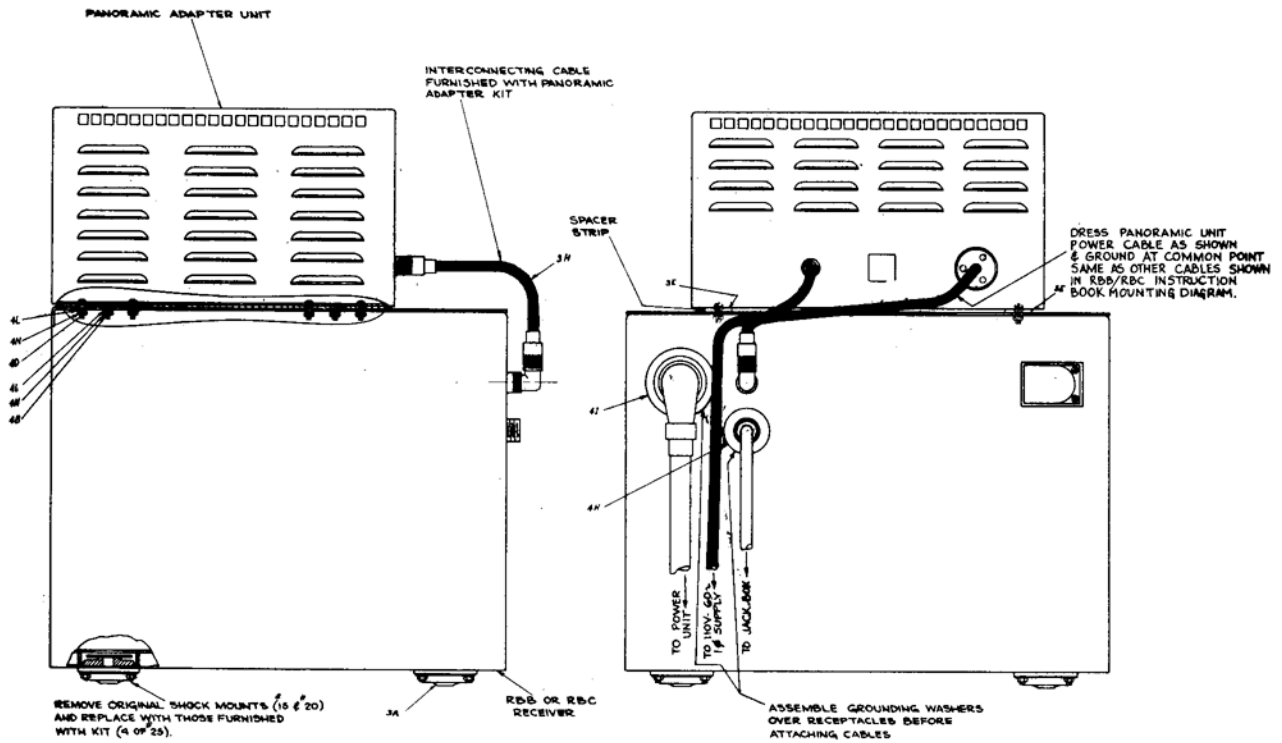


Figure 1-4—Panoramic Adaptor Unit and RBB/RBC Radio Receiver (Assembly Diagram T-621279)



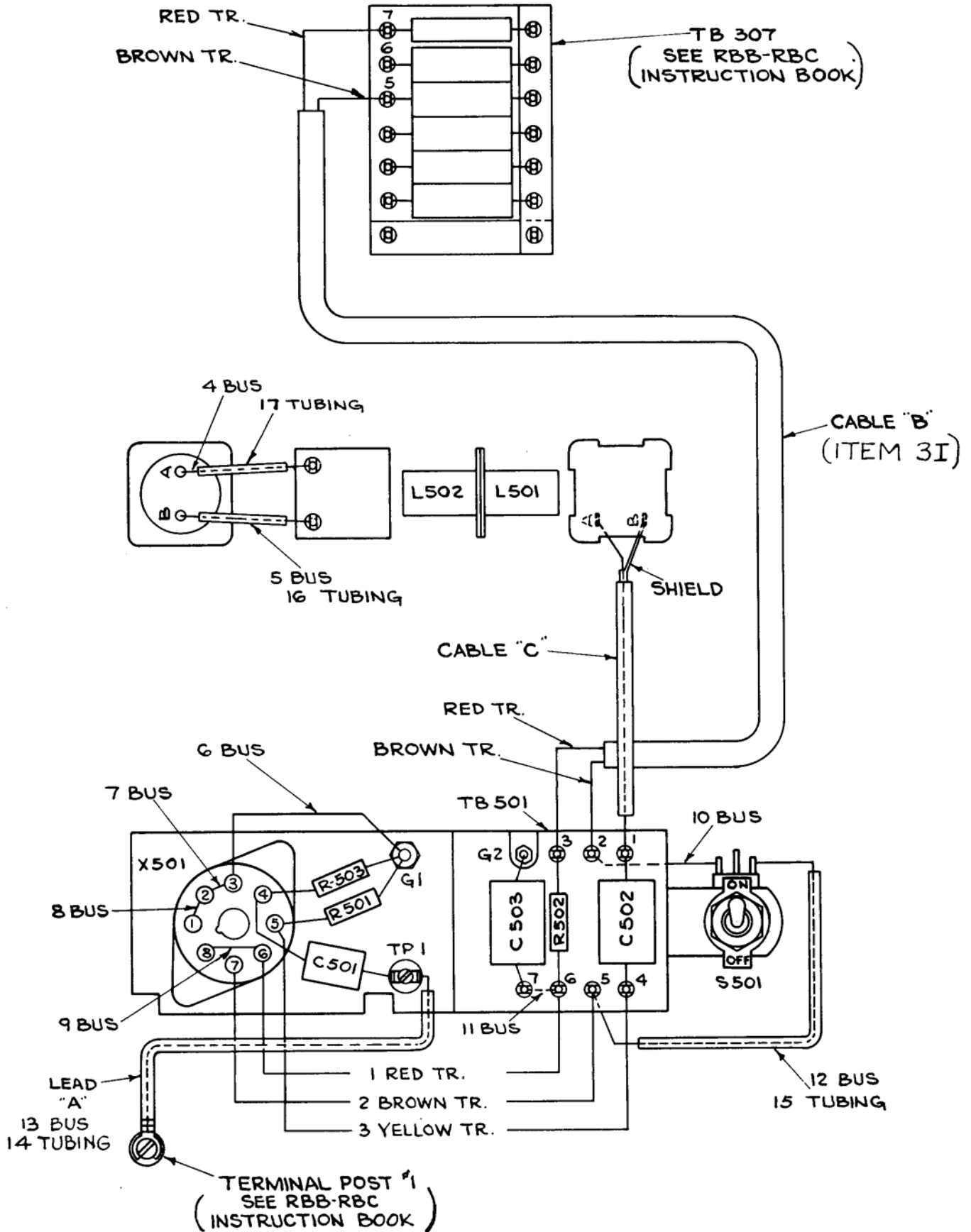


Figure 1-5—Interconnection of Components (P-722278-B)

## II INSTALLATION

### 1. Removal of RBB/RBC Chassis From Cabinet.

Remove the RBB/RBC chassis from its cabinet in the following manner:

- a. Disconnect the antenna, audio output, and interconnecting cable plugs from their receptacles at the rear of the radio receiver.
- b. Loosen the twelve panel thumbscrews by turning them approximately six turns. These thumbscrews are of the captive type and do not release entirely.
- c. Take hold of the two round knobs located on the front of the receiver and pull the chassis out part way, until the stops strike. These stops

may be released by pressing on the stop arms through the holes on each side of the chassis, near the bottom.

d. Pull the chassis completely out and set it on a level surface.

e. Remove the original shock mounts from the cabinet and replace with those furnished with the kit (item 3A). See Figure 1-4.

### 2. Removal of Audio Filter Coil and Connector Assembly.

Remove from the receiver the audio filter coil (L304-A, B) and connector assembly (J302) in the following manner: (See Figure 2-1.)

**NOTE :- ASSEMBLE AUDIO FILTER COIL WITH #1 CLIP TOWARDS TOP OF UNIT.**

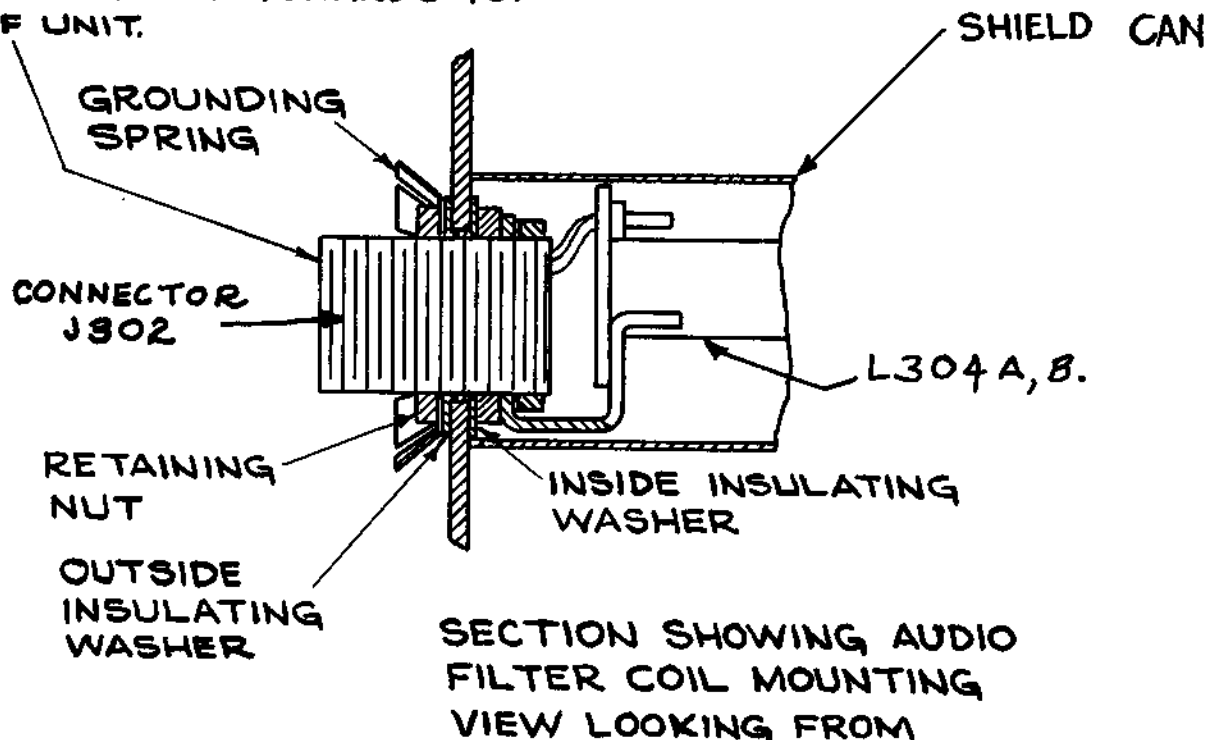


Figure 2-1—Audio Filter Coil (L304-A, B) Mounting (Side View, P-722277-A)

- a. Remove the retaining nut.
- b. Remove the grounding spring.
- c. Remove the outside insulating washer.
- d. Remove shield can screws and brackets.
- e. Remove the audio filter coil, connector assembly, and inside insulating washer. Note: It is not necessary to unsolder any wires.

### 3. Chassis Drilling. (See Figure 2-2.)

a. Cut out template No. 1 with a razor or some sharp instrument. Hold the template in place against the rear of the RBB or RBC radio receiver chassis with scotch tape or friction tape. See Figure 2-2A.

b. Mark off the position of the seven additional holes by means of a centerpunch.

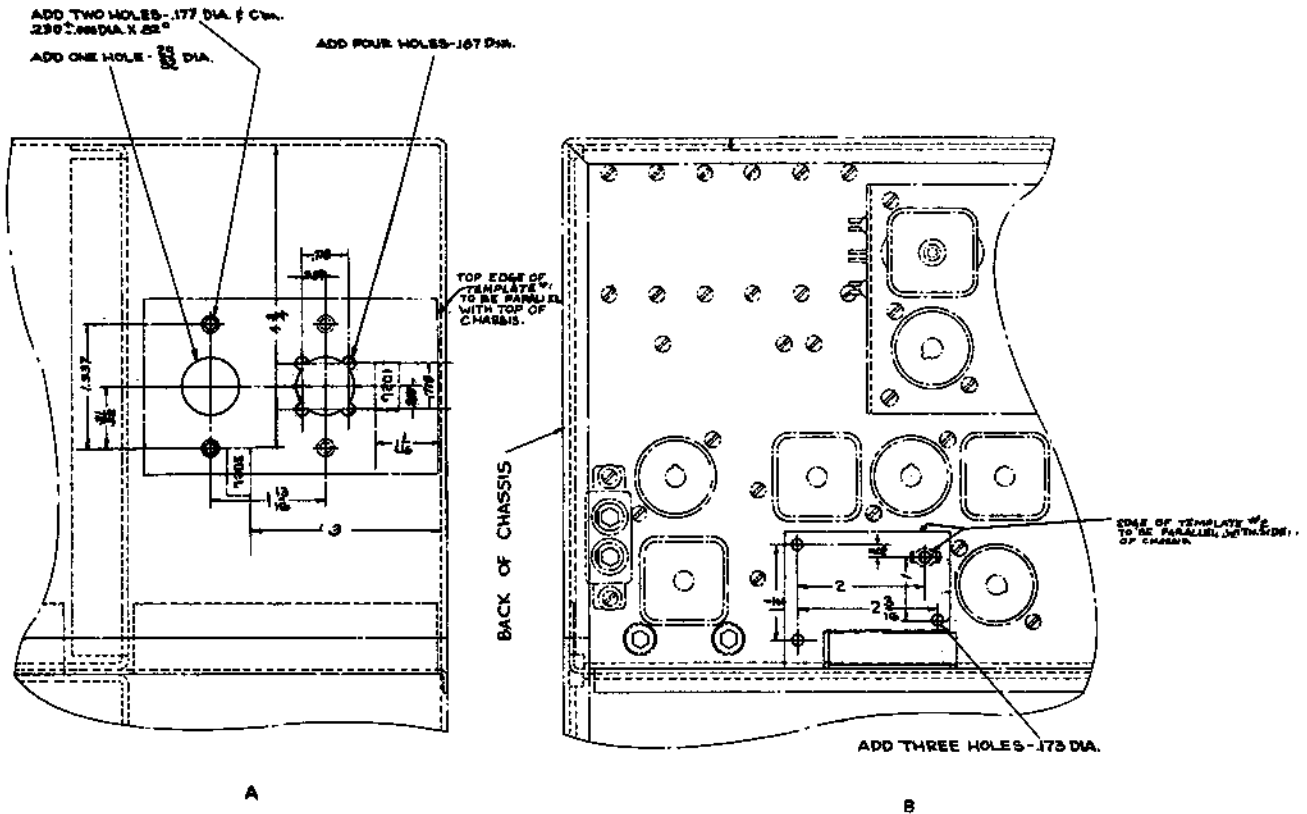


Figure 2-2—Panoramic Coupling Kit, Type CLP-10335, Chassis Drilling (Diagram P-722275)

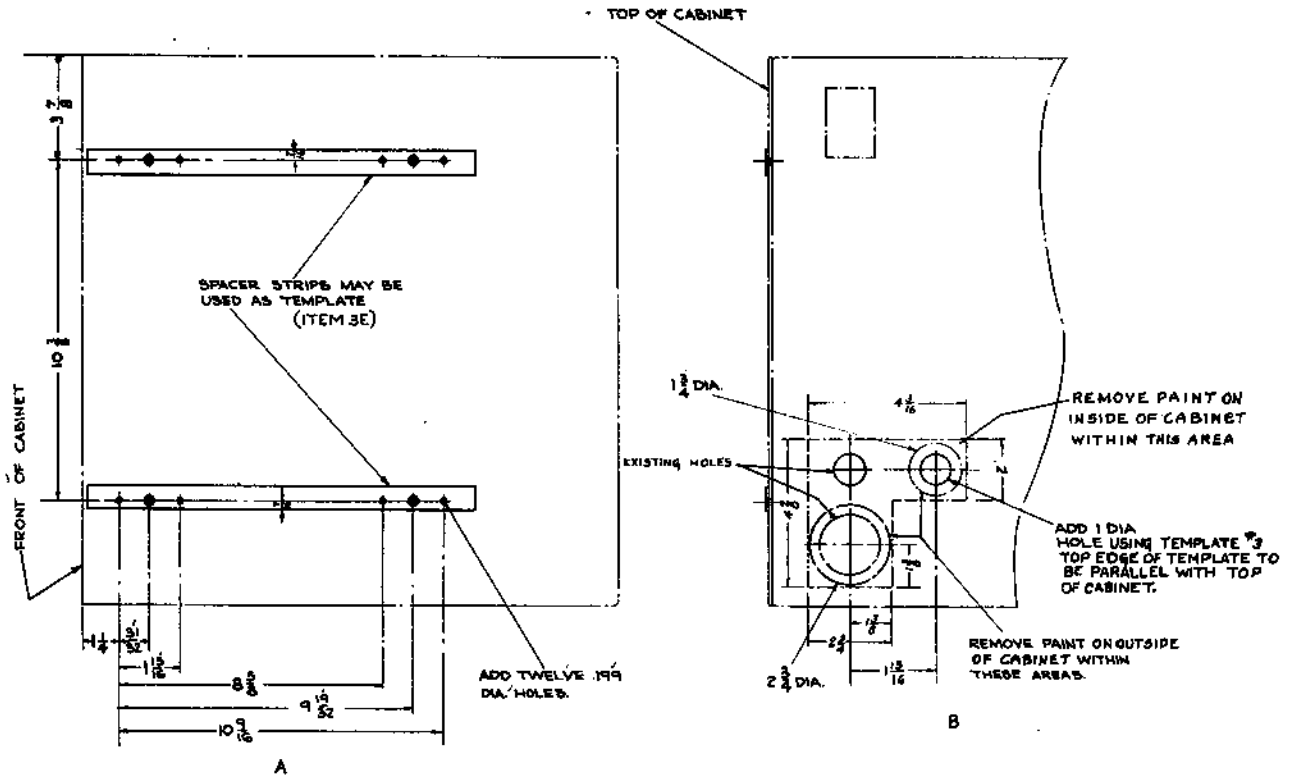


Figure 2-3—Panoramic Coupling Kit, Type CLP-10335, Cabinet Drilling (Diagram P-722276)

c. Drill the four 0.1875" ( $\frac{3}{16}$ ") holes in the back of the chassis frame as shown in Figure 2-2A. NOTE: Drill pilot holes before drilling the finished (correct size) holes.

d. Cut out template No. 2. Remove the ground terminal and drill the three additional 0.173" diameter holes. See Figure 2-2B.

**4. Cabinet Drilling.** (See Figure 2-3.)

a. Place the two spacer strips (item 3E) in the position shown on Figure 2-3A. The two spacer strips are used as templates. Make sure that edge  $\frac{7}{16}$ " from center of holes is toward the ends of the cabinet.

b. Mark off the position of the twelve additional holes. Drill the holes (0.199" diameter) using a No. 8 drill.

c. Cut out templates No. 3. See Figure 2-3B.

d. Drill the additional (1" diameter) hole.

e. Remove the paint from the inside of the cabinet within the area shown on Figure 2-3B. Remove the paint from the outside of the cabinet within the areas shown on Figure 2-3B.

**5. Audio Filter Mounting.**

Remount the audio filter coil (L304-A, B) and connector assembly (J302) in their new positions as shown in Figure 2-1. Use the same mounting hardware (brackets, nuts, etc.) as were used for the original mounting.

**6. Panoramic Low Pass Filter Unit Mounting.**  
(See Figure 2-4.)

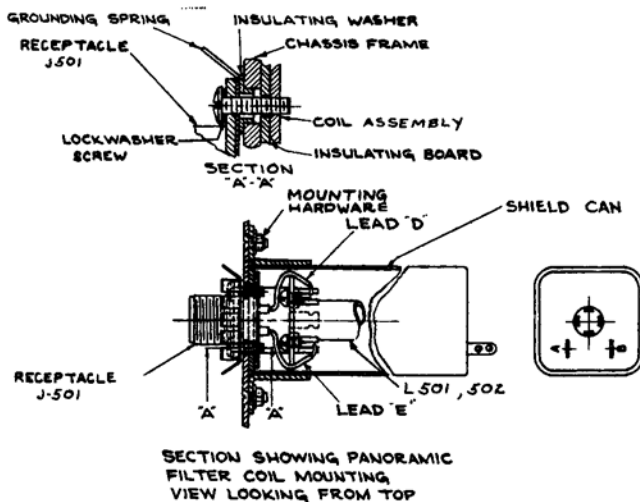


Figure 2-4—Panoramic Coupling Kit,  
Type CLP-10335, Low Pass Filter Unit Mounting  
(Diagram P-722277-B)

a. Connect leads "D" and "E" (item 40) on receptacle J501 (item 3F) as shown in Figure 2-4. Assemble the four insulating washers (item 4F), grounding spring (item 3G), receptacle

(item 3F), insulating board (item 3D), coil assembly (item 2), four lockwashers (item 4J), and four screws (item 4E) as shown in Figure 2-4. Add spaghetti (item 4P) over leads "D" and "E" and connect to terminals of coil assembly.

b. Place the shield can (item 3B) over the above assembly.

c. Fasten the shield can assembly (item 3B) to the chassis frame using two screws (item 4A), two lockwashers (item 4K), and two nuts (item 4M).

d. Place the shield can cover (item 3C) in position. NOTE: The cable "C" (see Figure 2-5) should be fed through the side hole.

e. Place the decalcomanias in position as shown in Figure 2-2.

**7. Cathode Follower Assembly Mounting.** (See Figures 2-5 and 2-8.)

a. Mount the cathode follower assembly in position as shown in Figure 2-5.

b. Fasten this assembly to the chassis by means of the four screws (item 4C) and four lockwashers (item 4K). NOTE: Be sure to put the ground terminal in place as shown in Figure 2-5.

**8. Wiring.** (See Figures 2-5 and 1-5.)

a. Connect lead "A" (part of item 1) to the first detector plate terminal post No. 1 (see RBB/RBC Instruction Book, Connection Diagram).

b. Connect cable "B" (item 3I) to TB307. The white lead with red tracer is connected to terminal No. 7 and the white lead with brown tracer is connected to terminal No. 5.

c. Connect cable "C" (part of item 2) to TB501, terminal No. 1, located on the cathode follower assembly.

**9. Panoramic Adaptor Unit Mounting.**

a. Mount the two aluminum spacer strips (item 3E) in their proper positions on the receiver cabinet as shown in Figure 2-3. Four lockwashers (item 4L), four flathead screws (item 4B), and four nuts (item 4N) are used for this purpose. See Figure 1-4.

b. Pace the panoramic adaptor cabinet on top of the two aluminum spacer strips. The eight mounting holes of the panoramic adaptor should correspond with the eight mounting holes of the spacer strips.

c. Bolt the Panoramic Adaptor Unit cabinet to the RBB/RBC radio receiver by means of the eight round head screws (item 4D). Replace the RBB/RBC and RBU/RBV chassis in their respective cabinets.

d. Connect the Panoramic Adaptor Unit to the RBB/RBC receiver by means of the cable which is supplied for this purpose (item 3H).

e. Connect the equipment to the power supply and insert the washer (item 4I) between the cable coupling nut and the back of the cabinet. See Figure 1-4.

f. Place the washer (item 4H) under the audio

output coupling nut in the same manner as described in paragraph "e." (See Figure 1-4.)

g. Dress the Panoramic Adaptor Unit power cable as shown in Figures 1-4 and 2-6, and ground the metal shield to the rear of the operating table.

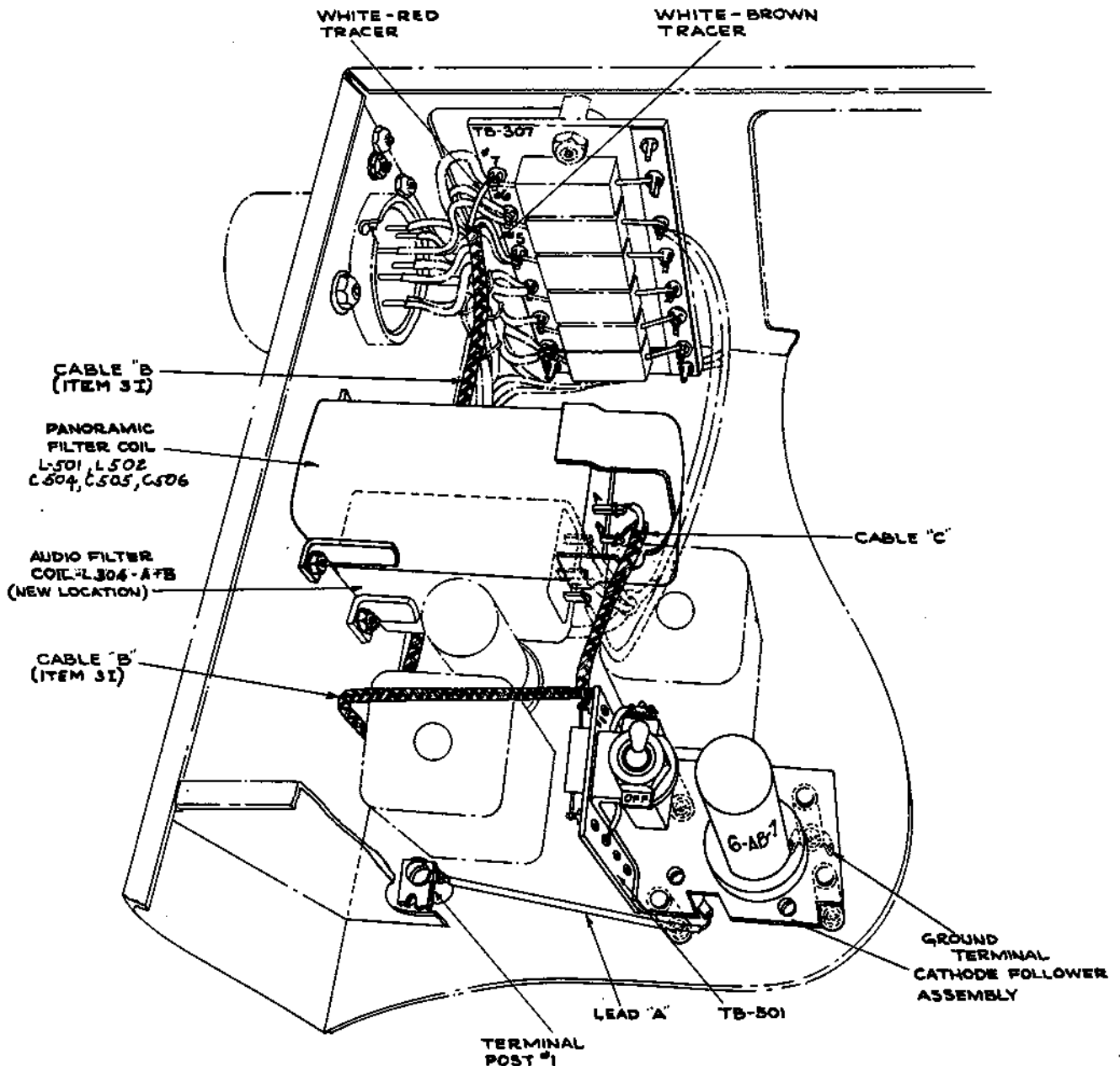


Figure 2-5—Installation of Panoramic Coupling Components (P-722277-C)

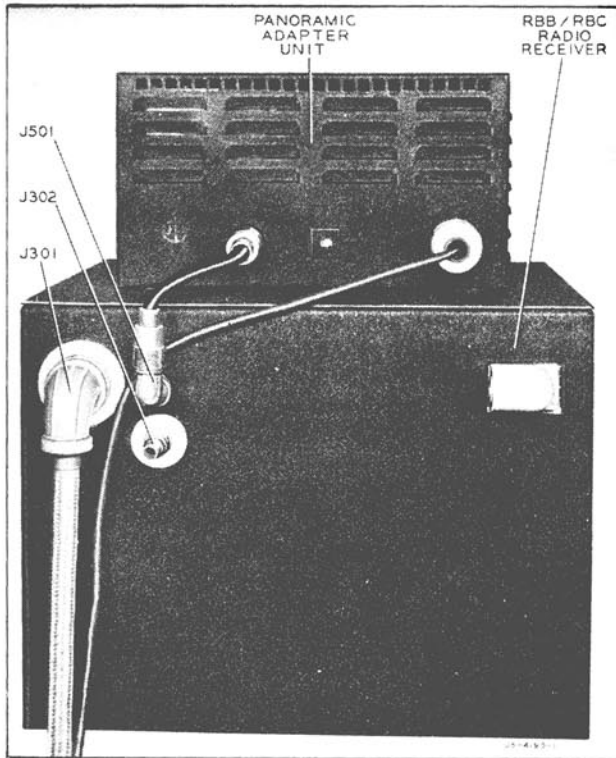


Figure 2-6—Panoramic Adaptor Unit and RBB/RBC Radio Receiver (Rear View)

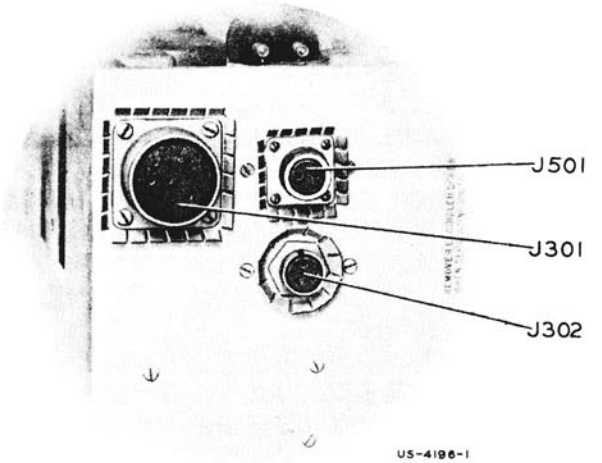


Figure 2-7—Model RBB/RBC Radio Receiver (Rear View, Showing J301, J302, J501)

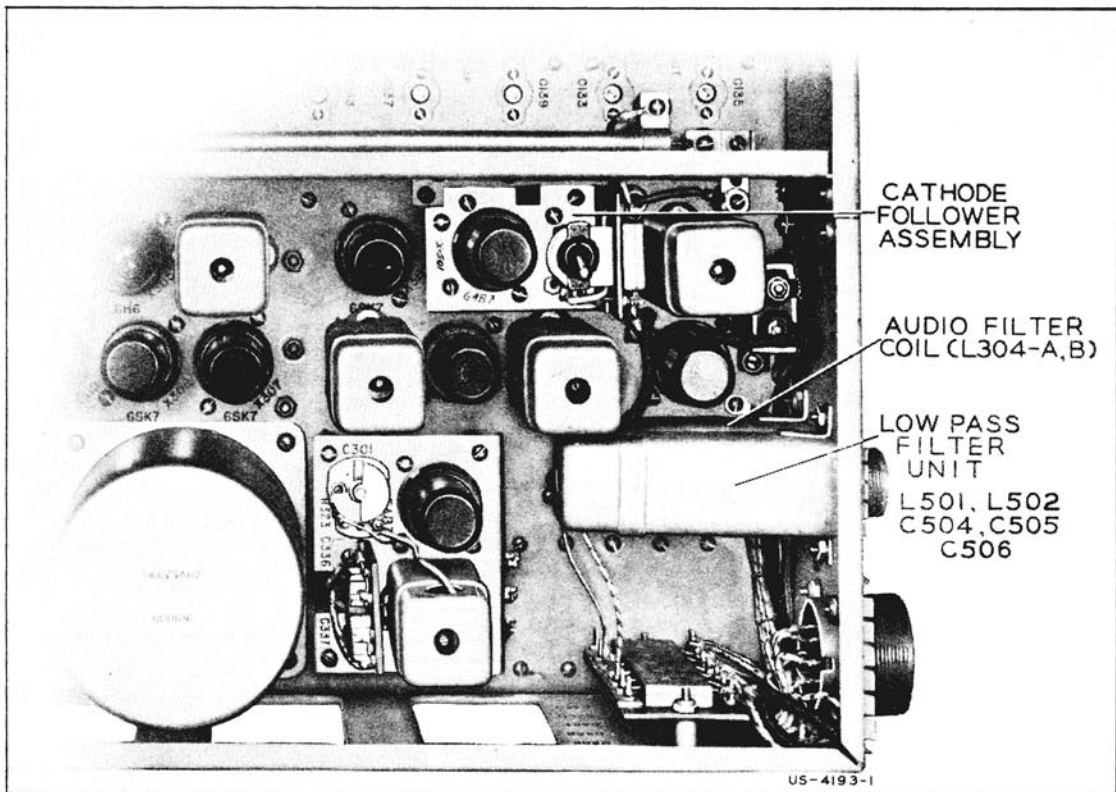


Figure 2-8—Model RBB/RBC Radio Receiver (Showing Cathode Follower Assembly and Low Pass Filter Unit)

### III OPERATION

1. **WARNING:** OPERATION OF THIS EQUIPMENT INVOLVES THE USE OF HIGH VOLTAGES WHICH ARE DANGEROUS TO LIFE. OPERATING PERSONNEL MUST AT ALL TIMES OBSERVE ALL SAFETY REGULATIONS. DO NOT CHANGE TUBES OR MAKE ADJUSTMENTS INSIDE EQUIPMENT WITH HIGH VOLTAGE SUPPLY ON. DO NOT DEPEND UPON DOOR SWITCHES OR INTERLOCKS FOR PROTECTION BUT ALWAYS SHUT DOWN MOTOR GENERATORS OF OTHER POWER EQUIPMENT. UNDER CERTAIN CONDITIONS DANGEROUS POTENTIALS MAY EXIST IN CIRCUITS WITH POWER CONTROLS IN THE OFF POSITION DUE TO CHARGES RETAINED BY CAPACITORS, ETC. TO AVOID CASUALTIES ALWAYS REMOVE POWER, DISCHARGE AND GROUND CIRCUITS PRIOR TO TOUCHING THEM.

#### 2. Operating Switch S501.

In order to couple the signal from the receiver to the panoramic adaptor, throw the switch

(S501) to the "ON" position. Since the switch is inside the receiver unit (i.e. mounted on the chassis), it is necessary that the switch be operated before the receiver is replaced in the cabinet. The switch (S501) is in series with the filament circuit of V501 and should be in the "OFF" position only when the extra power required to operate the panoramic coupling components can not be spared, or when Panoramic Adaptor Unit is not in use. Such a condition possibly can arise when operating two receivers from a single power supply and on low line voltage.

#### 3. Operating Conditions.

With switch S501 at the "ON" position, the receiver in its cabinet and operating, the Panoramic Adaptor Unit connected and operating, and a signal tuned in, the signal to which the radio receiver is tuned will appear as a vertical deflection at the center of the panoramic adaptor screen. (See Figure 3-1.) Other signals having higher or lower frequencies within the sweep range of the Panoramic Adaptor Unit will appear as vertical deflections to the right and left respectively of the deflection produced by the signal to which the radio receiver is tuned. For operation of the Panoramic Adaptor Unit, see the Instruction Book for that equipment.

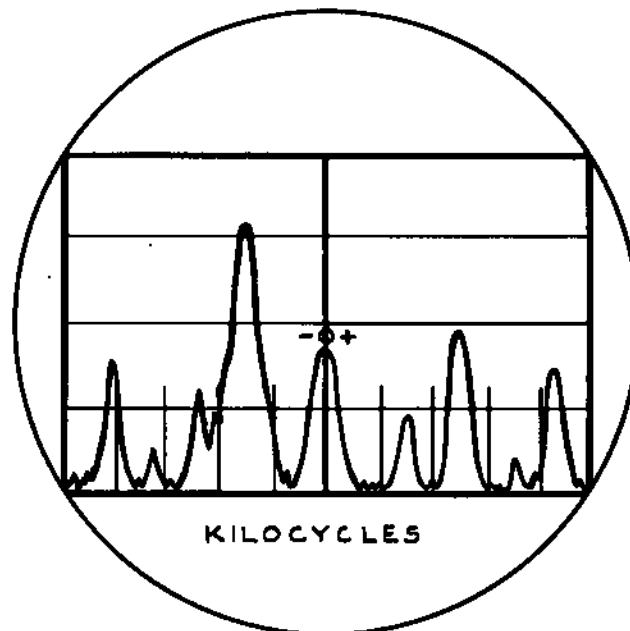


Figure 3-1—Signal Pips (K-888766)

## IV MAINTENANCE

### 1. Visual Inspection.

The first step in servicing any equipment is to locate the defective part by a series of tests or checks. Before checking electrically, visually inspect the RBB/RBC receiver, the panoramic adaptor, and the panoramic coupling components for loose connections, broken leads, and short circuits. If all connections appear to be normal, proceed with the following checks in the order given.

### 2. Voltage Measurements, Receiver Operating.

With the receiver operating, measure the voltage from the terminals of TB501 to ground in the panoramic coupling circuit.

From	To	Volts
TB501 No. 1	Gnd.	0
TB501 No. 2	Gnd.	6.3 v a.c.
TB501 No. 3	Gnd.	200 v d.c.
TB501 No. 4	Gnd.	2.7 v d.c.
TB501 No. 5	Gnd.	6.3 v a.c.
TB501 No. 6	Gnd.	135 v d.c.
TB501 No. 7	Gnd.	135 v d.c.

### 3. Voltages at Socket Contacts of X501.

If the voltages measured from the terminals of TB501 to ground agree with those given in the preceding chart, measure the voltage from the socket contacts to ground with V501 operating. Values to be expected are given in the following chart:

From	To	Volts
X501-1	Gnd.	0
X501-2	Gnd.	0
X501-3	Gnd.	0
X501-4	Gnd.	0
X501-5	Gnd.	2.7 v d.c.
X501-6	Gnd.	135 v d.c.
X501-7	Gnd.	6.3 v a.c.
X501-8	Gnd.	135 v d.c.

### 4. Resistance Measurements, Receiver Off.

If the defective part has not been located, measure the point-to-point resistance of the pano-

ramic coupling components (with the receiver off). Values to be expected are given in the following chart:

From	To	Ohms Resistance
X501 PIN #1	Gnd.	0
X501 PIN #2	Gnd.	0
X501 PIN #3	Gnd.	0
X501 PIN #4	Gnd.	1 Meg.
X501 PIN #5	Gnd.	470
X501 PIN #6	TB307 Term. #9	10,000
X501 PIN #7	TB307 Term. #7	0 (S501A)
X501 PIN #8	TB307 Term. #9	10,000

(TB307 I-F/A-F UNIT—

SEE RBB/RBC INSTRUCTION BOOK)

TB-501-1	J501-A	0
TB-501-1	Gnd.	INF
J501-B	Gnd.	INF (0 if receiver is in cabinet)

If the defective part is not located in the panoramic coupling components, measure the voltage and resistance in the RBB/RBC Receiver and in the Panoramic Adaptor Unit. See associated instruction books for normal values.

### 5. Checking With Signal Generator and Vacuum Tube Voltmeter.

Operation of the cathode follower and low pass filter components may be checked by means of a signal generator capable of delivering one volt at 400 kc and a vacuum tube voltmeter. To make this check, proceed as follows:

a. Using the signal generator (not supplied), apply one volt at 400 kc to the grid (terminal No. 4) of the cathode follower tube (V501).

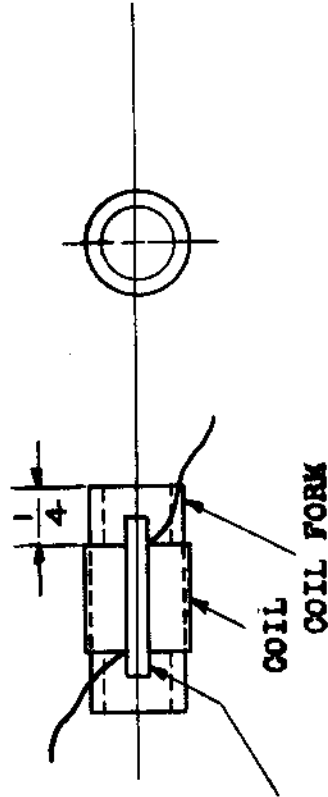
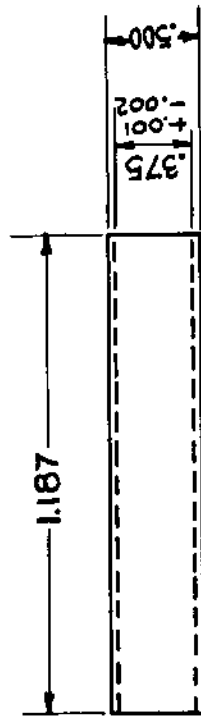
b. Using the vacuum tube voltmeter (not supplied) measure the output voltage across terminals A and B of J501. Normal operation is indicated by an output of 0.15 volt.

### 6. Coil Winding Data.

Refer to Figure 4-1 for coil winding data for L501 and L502.



M-480972-501  
 K-890751-501  
 K-850734-9



TAPE AND  
 ACETONE

COIL  
 COIL FORM

MAKE START AND FINISH LEADS 1 1/2 LONG, STRIP AND  
 TIN 1/2.

ANCHOR WINDING WITH TAPE, MOISTENED IN ACETONE.

TREAT WITH SUPERLA.

COIL NO.	CONDUCTOR	METHOD OF WINDING	NUMBER OF TURNS	INDUCTANCE
L501 L502	#30 E	SPACE WOUND 50 TURNS/INCH R. H. WOUND	55±1	22 ±10% MH. MEASURED AT 1000~

Figure 4-1—Coil Winding Data, L501, L502 (K-872195)

TABLE II  
PARTS LIST BY SYMBOL DESIGNATION  
PANORAMIC COUPLING KITS FOR MODELS RBV/RBY PANORAMIC ADAPTORS FOR USE WITH MODELS RBB/RBC RECEIVERS

SYMBOL DESIG.	FUNCTION	DESCRIPTION	NAVY TYPE NUMBER	NAVY DRAWING OR SPEC.	MFR.	MFR. DESIG.	RCA DRAWING NUMBER
STRUCTURAL PARTS							
Q*TA-501	Receiver Cabinet Shock Mounts	Lord sq. plate type, 2-1/4" sq., 1" high, load rating 25 lbs. at 1/16" deflection			371	200225	856017-14
CAPACITORS							
Q*TC-501	Input Coupling Capacitor	Fixed, molded mica, 100 mmfd $\pm 10\%$ , 500 v d.c. working, low-loss case	-48674-B10	RB-48A-154	207 710 714 721 793	MaK100 MOBN 1468LS OXM SNS	720473-6
Q*TC-502	Filter Input Coupling Capacitor	Fixed, molded mica, 10,000 mmfd $\pm 10\%$ , 300 v d.c. working	-48938-B10	RB-48A-154	714	1443W	720592-6
Q*TC-503	R-F Bypass Capacitor	Same as C-502	-48938-B10				
Q*TC-504	Filter Tuning Capacitor	Fixed, molded mica, 5,000 mmfd $\pm 10\%$ , 300 v d.c. working, low-loss case	-481037-B10	RB-48A-154	710 714 721	MWBN 1467LS WXM	720473-40
Q*TC-505	Filter Tuning Capacitor	Fixed, molded mica, 10,000 mmfd $\pm 10\%$ , 300 v d.c. working, low-loss case	-48848-B10	RB-48A-154	714	1467LS	720592-7
Q*TC-506	Filter Tuning Capacitor	Same as C-504					
MISCELLANEOUS ELECTRICAL PARTS							
Q*TE-501	Stand-off Insulator for Input Terminal	Stand-off, ceramic, 1/2" dia. x 1/2" long, #6-32 tapped hole each end			323	397L1/a	802900-20

Q TENDER SPARE PARTS FURNISHED, refer to TABLE IV, TENDER SPARES, for quantities.  
 \* EQUIPMENT SPARE PARTS FURNISHED, refer to TABLE IV, EQUIPMENT SPARES, for quantities.  
 † STOCK SPARE PARTS FURNISHED, referred to TABLE IV, STOCK SPARES, for quantities.

IB-36339-W1

TABLE II (Continued)  
 PARTS LIST BY SYMBOL DESIGNATION  
 PANORAMIC COUPLING KITS FOR MODELS RBUR/RBY PANORAMIC ADAPTORS FOR USE WITH MODELS RBB/RBC RECEIVERS

SYMBOL DESIGN.	FUNCTION	DESCRIPTION	NAVY TYPE NUMBER	NAVY DRAWING OR SPEC.	MFR.	MFR. DESIG.	RCA DRAWING NUMBER
RECEPTACLES							
Q *J-501	Output Signal Connector	Chassis type, 2 contact, 1-1/16" overall length, 5/8"-24 threads, 1" sq. mounting flange with four holes, 0.120" dia.			30	83-22R	891621-1
INDUCTANCES							
L-501	R-F Choke (Part of Z-501)	0.010 bare enamel wire, space wound, 80 turns, 1" R-R wound, 55 ± turns, 22 ±10% microhenries, measured at 1,000 cycles			1		890737-3
L-502	R-F Choke (Part of Z-501)	Assembly consisting of laminated phenolic coil form and one coil			1		890737-501
MISCELLANEOUS MECHANICAL PARTS							
Q *O-501	Low-pass Filter Assembly Grounding Spring	Phosphor bronze, 0.010" thick, 1-13/32" sq., 16 slots, 1/16" wide around upturned edges, 0.640" dia. hole in center, 0.128" dia. hole each corner			1		890709-1
PLUGS							
Q *P-501	Plug (Part of W-503)	Straight, 2 contact, knurled coupling ring 11/16" dia. with 5/8"-24 threads, 1-1/2" long			30	83-22SP	890798-1
Q *P-502	Connector (Part of W-503)	Right angle adaptor, 2 contact, knurled coupling ring 3/4" dia. one end, 5/8"-24 threads each end			30	83-22AP	890799-1

Q TENDER SPARE PARTS FURNISHED, refer to TABLE IV, TENDER SPARES, for quantities.  
 \* EQUIPMENT SPARE PARTS FURNISHED, refer to TABLE IV, EQUIPMENT SPARES, for quantities.  
 † STOCK SPARE PARTS FURNISHED, refer to TABLE IV, STOCK SPARES, for quantities.

TABLE II (Continued)  
PARTS LIST BY SYMBOL DESIGNATION  
PANORAMIC COUPLING KITS FOR MODELS RBU/RBV PANORAMIC ADAPTORS FOR USE WITH MODELS RBB/RBC RECEIVERS

SYMBOL DESIGN.	FUNCTION	DESCRIPTION	NAVY TYPE NUMBER	NAVY DRAWING OR SPEC.	MFR. MFR. DESIGN.	RCA DRAWING NUMBER
<b>RESISTORS</b>						
9#1R-501	Cathode Grid Bias Resistor for V-501	Composition, insulated, 470 ohms $\pm 10\%$ , 1/2 watt, wire leads			321 BT-1/a	850981-58
9#1R-502	Recoupling Resistor	Fixed, composition, insulated, 10,000 ohms $\pm 10\%$ , 1/2 watt, wire lead	-63360		321 BT-1/a	850981-74
9#1R-503	Grid Resistor	Fixed, composition, insulated, 1 meg. $\pm 10\%$ , 1/2 watt, wire leads	-63360		321 BT-1/a	850981-98
<b>SWITCHES</b>						
9#1S-501	Filament Off-on Switch	Toggle, S.P.S.T., rating 1 amp. at 250 v, 3 amps. at 125 v d.c.	-24000		723 Cat.#20994BT	420278-1
<b>VACUUM TUBES</b>						
9#1V-501	Cathode Follower Vacuum Tube	Television amplifier pentode, single-ended, metal type, heater, 6.3 v a.c. or d.c. at 0.45 amp.	-JAN-6AP7		516 6AP7	6127000
<b>WIRES AND CONDUCTORS</b>						
9#1W-501	Interconnection Cable, Terminals 5 and 7 on TB 307 to Terminals 2 and 3 on TB 501	2 conductors, 10 strand AWG #30 with aeroglass insulation, one white-brown tracer, other white-red tracer, twisted together and covered with glazed black cotton yarn, overall length 21"			1	890721-501
9#1W-502	Low-pass Filter Input Connecting Cable	1 conductor, 10 strand AWG #30 with white aeroglass insulation covered with tinned copper braided shielding, AWG #36 outside cover, glazed black cotton yarn, overall length 3-3/4"			1	890722-501

9 TENDER SPARE PARTS FURNISHED, refer to TABLE IV, TENDER SPARES, for quantities.  
# EQUIPMENT SPARE PARTS FURNISHED, refer to TABLE IV, EQUIPMENT SPARES, for quantities.  
† STOCK SPARE PARTS FURNISHED, refer to TABLE IV, STOCK SPARES, for quantities.

TABLE II (Continued)  
PARTS LIST BY SYMBOL DESIGNATION  
PANORAMIC COUPLING KITS FOR MODELS RBU/RBV PANORAMIC ADAPTORS FOR USE WITH MODELS RBB/RBC RECEIVERS

SYMBOL DESIGN.	FUNCTION	DESCRIPTION	NAVY TYPE NUMBER	NAVY DRAWING OR SPEC.	MFR.	MFR. DESIGN.	RCA DRAWING NUMBER
WIRES AND CONDUCTORS (Continued)							
Q*TW-503	Signal Cable, Panoramic Adaptor to Radio Receiver	Assembly consists of: 2 conductors, shielded cable vinyl covered A-N type RG 22/U with straight connector plug one end, angle adaptor plug other end, approx. 11" long overall			1		430391-501
Q*TW-504	Wire Connector X-501 to C-502	10 strands AWG #30, aeroglass insulation, white with yellow tracer, 6" long			357		891676-19
Q*TW-505	Wire Connector X-501 to R-502	10 strands AWG #30, aeroglass insulation, white with red tracer, 6" long			357		891676-20
Q*TW-506	Wire Connector X-501 to Terminal 5 on TB 501	10 strands AWG #30, aeroglass insulation, white with brown tracer, 6" long			357		891676-21
Q*TW-507	Bus Wire Connection, Terminal 5 on TB 501 to Terminal 2 on S-501	Tinned, soft copper, 0.040" dia. x 6" long			541		891676-22
Q*TW-508	Flexible Cover for W-507	Insulating, 0.053" I.D. x 6" long, yellow			411		891676-23
SOCKETS							
Q*TY-501	Socket for V-501	Octal, steatite, 8 contacts, silver plated, complete with: stainless steel adaptor plate 2" long x 1-3/8" dia.		RE-49AA-313A	1		421395-505
Y-501	Adaptor Plate (Part of X-501)	2" long, 1-3/8" O.D., 0.062" thick with 1.172" hole, stainless steel			30		421395-7

Q TENDER SPARE PARTS FURNISHED, refer to TABLE IV, TENDER SPARES, for quantities.  
\* EQUIPMENT SPARE PARTS FURNISHED, refer to TABLE IV, EQUIPMENT SPARES, for quantities.  
† STOCK SPARE PARTS FURNISHED, refer to TABLE IV, STOCK SPARES, for quantities.

TABLE II (Continued)  
 PARTS LIST BY SYMBOL DESIGNATION  
 PANORAMIC COUPLING KITS FOR MODELS RBU/RBV PANORAMIC ADAPTORS FOR USE WITH MODELS RBB/RBC RECEIVERS

SYMBOL DESIG.	FUNCTION	DESCRIPTION	NAVY TYPE NUMBER	NAVY DRAWING OR SPEC.	MFR.	MFR. DESIG.	RCA DRAWING NUMBER
4*†Z-501	Low-pass Filter	FILTERS Assembly consists of: two coils L-501, 502, each 55 turns AWG #30 B wire, R-H space wound, 80 turns per inch on phenolic form, inductance 22 microhenries $\pm 10\%$ at 1000 cycles; also includes capacitors C-504 0.005 mfd, C-505 0.01 mfd, C-506 0.005 mfd, and three terminal board assemblies			1		430372-501

‡ TENDER SPARE PARTS FURNISHED, refer to TABLE IV, TENDER SPARES, for quantities.  
 \* EQUIPMENT SPARE PARTS FURNISHED, refer to TABLE IV, EQUIPMENT SPARES, for quantities.  
 † STOCK SPARE PARTS FURNISHED, refer to TABLE IV, STOCK SPARES, for quantities.