

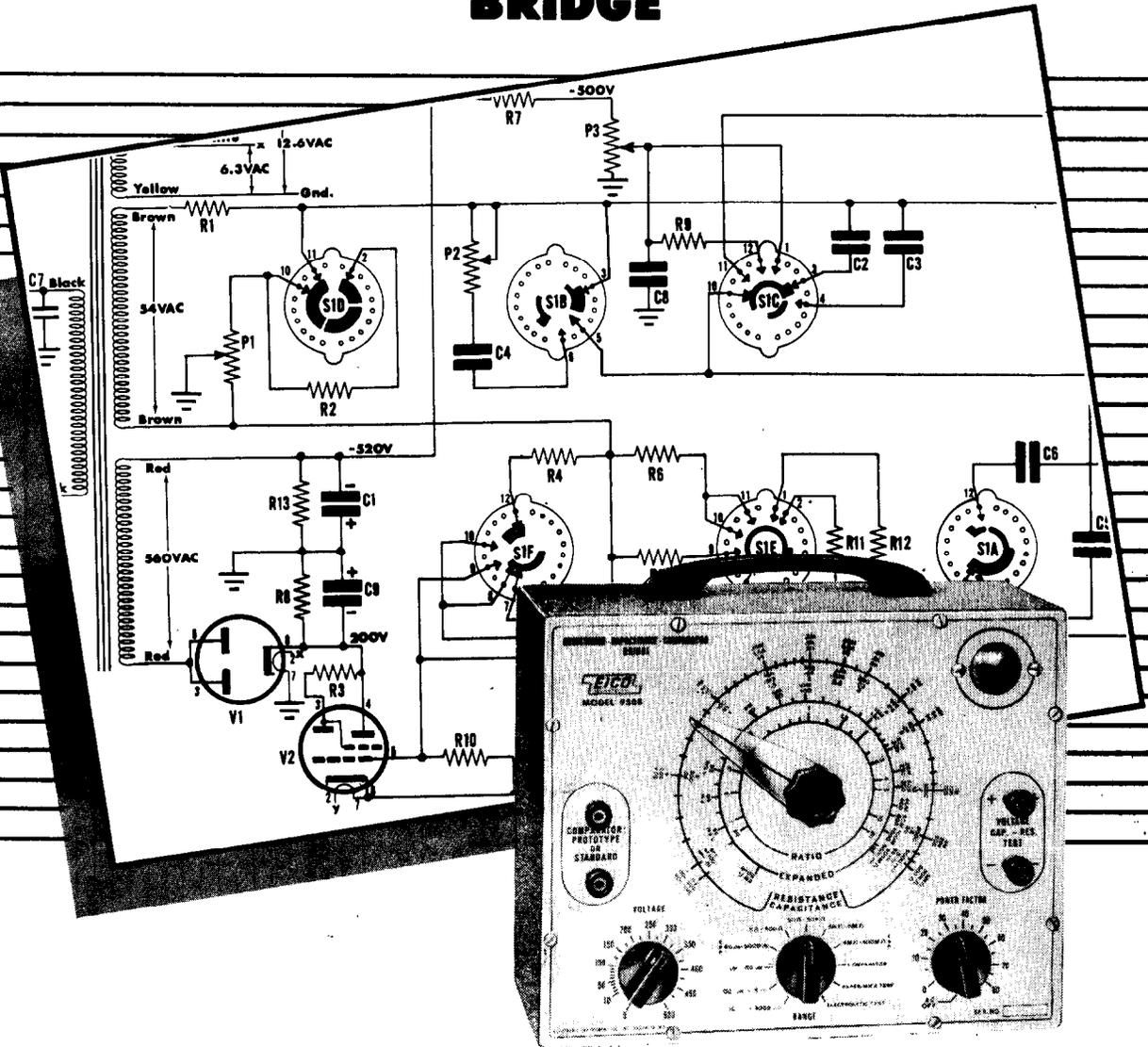


CONSTRUCTION MANUAL

Model 950B

RESISTANCE-CAPACITANCE-COMPARATOR BRIDGE

BRIDGE



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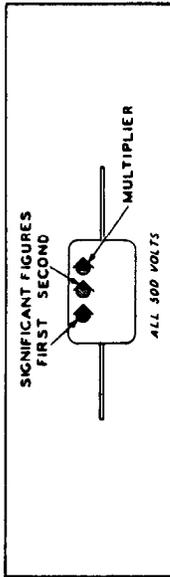
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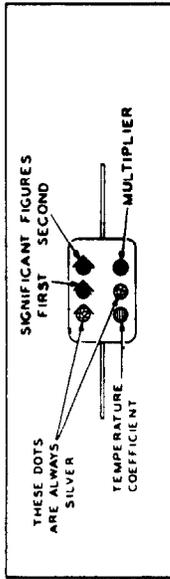
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CAPACITOR COLOR CODES

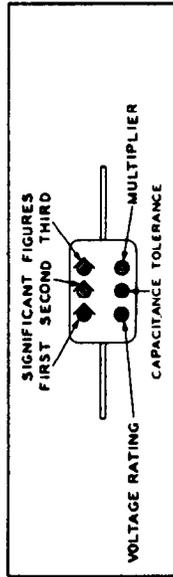
RMA 3-DOT COLOR CODE FOR MICA-DIELECTRIC CAPACITORS



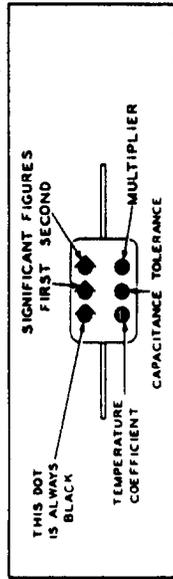
JAN 6-DOT COLOR CODE FOR PAPER-DIELECTRIC CAPACITORS



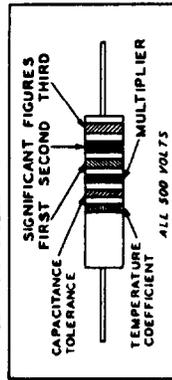
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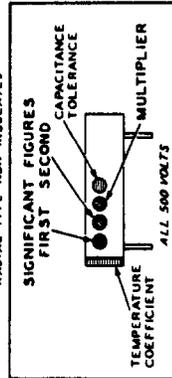
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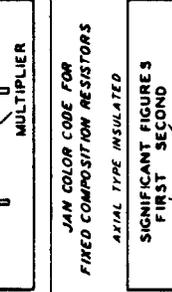
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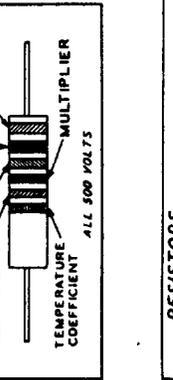
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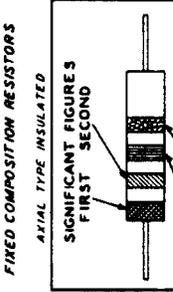
RMA COLOR CODE FOR AXIAL TYPE FINE COMPOSITION RESISTORS



RMA COLOR CODE FOR RADIAL TYPE NON-INSULATED CERAMIC-DIELECTRIC CAPACITORS



JAN COLOR CODE FOR AXIAL TYPE INSULATED FINE COMPOSITION RESISTORS



RESISTORS

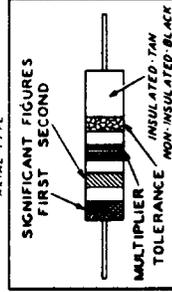
TOLERANCE	MULTIPLIER	SIGNIFICANT FIGURE	COLOR	RMA MICA AND CERAMIC-DIELECTRIC	JAN MICA AND PAPER-DIELECTRIC	JAN CERAMIC DIELECTRIC	VOLTAGE RATING	TEMPERATURE COEFFICIENT
	1	0	BLACK	1	1	1	100	A
	10	1	BROWN	10	10	10	200	B
	100	2	RED	100	100	100	300	C
	1000	3	ORANGE	1000	1000	1000	400	D
	10000	4	YELLOW	10000	10000		500	E
	100000	5	GREEN	100000			600	F
	1000000	6	BLUE	1000000			700	G
	10000000	7	VIOLET	10000000			800	
	100000000	8	GRAY	100000000		0.01	900	
	0.1	9	WHITE	0.1		0.1	1000	
5	0.01		GOLD	0.01			2000	
10			SILVER				500	
20			NO COLOR					

CAPACITORS

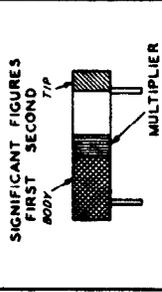
TOLERANCE	MULTIPLIER	SIGNIFICANT FIGURE	COLOR	RMA MICA AND CERAMIC-DIELECTRIC	JAN MICA AND PAPER-DIELECTRIC	JAN CERAMIC DIELECTRIC	VOLTAGE RATING	TEMPERATURE COEFFICIENT
	1	0	BLACK	1	1	1	100	A
	10	1	BROWN	10	10	10	200	B
	100	2	RED	100	100	100	300	C
	1000	3	ORANGE	1000	1000	1000	400	D
	10000	4	YELLOW	10000	10000		500	E
	100000	5	GREEN	100000			600	F
	1000000	6	BLUE	1000000			700	G
	10000000	7	VIOLET	10000000			800	
	0.1	8	GRAY	0.1		0.01	900	
	0.01	9	WHITE	0.01		0.1	1000	
			GOLD				2000	
			SILVER				500	
			NO COLOR					

RESISTOR COLOR CODES

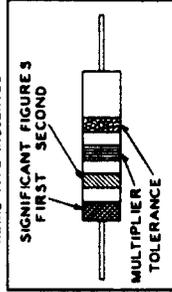
RMA COLOR CODE FOR AXIAL TYPE FINE COMPOSITION RESISTORS



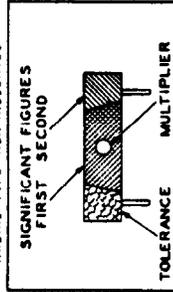
RADIAL TYPE



JAN COLOR CODE FOR AXIAL TYPE INSULATED FINE COMPOSITION RESISTORS



RADIAL TYPE NON-INSULATED



GENERAL INSTRUCTIONS

Care taken in the construction of this instrument will reward the constructor with many years of satisfactory service and greater confidence in his instrument. We urge you to not rush the construction, but to take all the time necessary for proper assembly and wiring.

Furthermore, we urge strongly that you follow the wire and parts layout shown in the pictorial diagrams as closely as possible. This is important because improperly placed leads will result in stray pickup and increased distributed wiring capacity.

UNPACKING THE KIT: Unpack the kit carefully and check each part against the parts list including those parts that are mounted to the chassis. If you have trouble identifying any parts, refer to the pictorial diagrams or the color code chart.

You may find that the value of a component will vary within the allowable circuit tolerance. As an example, a 470K ohm resistor may have substituted for it a 510K ohm resistor if the circuit is such as to allow this substitution. In general, resistors and controls have a tolerance of $\pm 20\%$ unless otherwise specified. Therefore a 100K resistor may measure anywhere between 80K and 120K ohms. Tolerances on capacitors are even greater, unless specified. Limits of +100% and -50% are usual for electrolytic capacitors.

CONSTRUCTION HINTS: USE THE BEST GRADE OF ROSIN CORE SOLDER ONLY, preferably one containing the new activated fluxes such as Kester "Resin-Five", Ersin "Multicore" or similar types. UNDER NO CIRCUMSTANCES USE ACID CORE SOLDER OR ACID FLUX since acid flux can cause serious corrosion. Before soldering make certain of a good mechanical connection. Use a clean, freshly tinned soldering iron, no smaller than 100 watts, and place the solder on the joint (not on the iron) so that the solder is melted by the heat from the joint itself. Do not remove the soldering iron until the solder flows and check to see that the resulting joint is smooth and shiny when the solder has cooled. There are two extremes to be avoided; too little heat and too much heat. If too little heat is applied, the joint will appear pitted and grey, indicating a rosin joint which is unsatisfactory. On the other hand, if too much heat is applied to a joint, the parts connected to it may either change value, lose their protective coating, or break down. If you are soldering close to a part, hold the lead between the part and the joint being soldered with the tip of a pair of longnose pliers. The pliers will conduct the heat away and prevent the component from being unduly overheated. If for any reason it is necessary to re-solder a joint, be sure to use new solder.

It should also be noted that the leads on transformers, capacitors, and resistors are very often longer than necessary. These leads should be trimmed to the proper length when wiring.

PARTS LIST

Stock #	Sym.	Description	Am't.	Stock #	Sym.	Description	Am't.	Stock #	Sym.	Description	Am't.
88021	A1	cabinet	1	11027	R2	+ res., 250K, 1/2W, 1% ...	1	58501	W3	wire, bare	pc.
81054	A2	chassis	1	10030	R3	- res., 1M Ω , 1/2W	1	58300	W4	tubing, thin (spaghetf) .	pc.
81055	A3	bracket, eye tube	1	11002	R4	+ res., 20 Ω , 1/2W, 1% ...	1	58301	W5	tubing, heavy	pc.
80028	A4	panel	1	11011	R5	+ res., 2K Ω , 1/2W, 1% ...	1	97003	XV1	socket, octal, saddle ...	1
87000	A5	handle	1	11026	R6	+ res., 200K Ω , 1/2W, 1% ..	1	97013	XV2	socket, octal, molded ...	1
23006	C1	cap., elec 8mfd-525V ..	1	10803	R7	- res., 3.3K Ω , 1W	1	40000		nut, #6 hex	5
21500	C2	cap., 200mmf, prec. ...	1	10848	R8	- res., 68K Ω , 1W	1	40001		nut, 3/8 hex	7
20500	C3	cap., .02mf, prec.	1	10027	R9	- res., 270K Ω , 1/2W	1	40008		nut, #8 hex	8
20501	C4	cap., 2mf, prec.	1	10037	R10	- res., 10M Ω , 1/2W ...	1	41000		screw, 6-32 X 1/4	5
20000	C5, 6, 7	cop., .01mf, 400V	3	10818	R11	- res., 2.2K Ω , 1W	1	41001		screw, 10-24 X 1/4 ...	2
20015	C8	cop., .25mf - 600V ...	1	10028	R12	- res., 470K, 1/2W	1	41002		screw #6 P.K.	9
23008	C9	cop., elec 4mfd-250V ..	1					42000		washer, 3/8 lock	4
53006	E1	knob, bar	3	60030	S1	switch, ronge	1	42001		washer, 3/8 flat	4
53500	E2	knob, pointer	1		S2	switch, SPST, p/o P2		42002		washer, #6 lock	5
46000	E3	grommet, 3/8" rubber ..	1	30005	PT1	transformer, power	1	42008		washer, #8 lock	4
46005	E4	feet, rubber	4	54001	TB1	term., strip, 1 post right ..	1	42017		washer, #8 fibre flat ...	4
52001	J1-4	post, binding	4	54006	TB2	term., strip, 3 post, 2 right.	1	42018		washer, #8 fibre shldr ..	4
17000	P1	pot., 10K Ω	1	90009	V1	tube, 6X5	1	43000		lug, #6 gnd.	3
18007	P2	pot., 1K Ω w/SPST	1	90015	V2	tube, 1629	1	43001		lug, 3/8 gnd.	2
19005	P3	pot., 100K Ω , 4W	1	57000	W1	line cord	1	43004		lug, #8	4
10752	R1	+ res., 500 Ω , 4W	1	58000	W2	wire, hook-up,	pc.			instruction book	

NOTE: When ordering replacement parts, please include all of the following information: 1) part number and description given in parts list; 2) quantity; 3) model number of instrument; 4) serial number of instrument (on panel). This information will expedite the processing of your order and insure your receiving the correct replacement parts.

CONSTRUCTION PROCEDURE

CONSTRUCTION PROCEDURE: The step-by-step mounting and wiring procedure given below allows you to complete the mounting and wiring in a systematic manner. When you have completed a mounting or wiring instruction, check it off in the space provided. The method and location of mounting or the proper way to run a particular lead is shown in the accompanying drawings. To keep the drawings uncrowded, unnecessary repetition of mounting or wiring details may be omitted.

NOTE: In some cases, more than one connection is made to the same terminal. This condition is designated in the wiring instructions by the abbreviation (C), meaning that the connection should not be soldered until other leads have been connected. Where only one lead is connected to a terminal, or where the last of several leads is connected, the abbreviation (S) will be given. (S) means that the joint should be soldered.

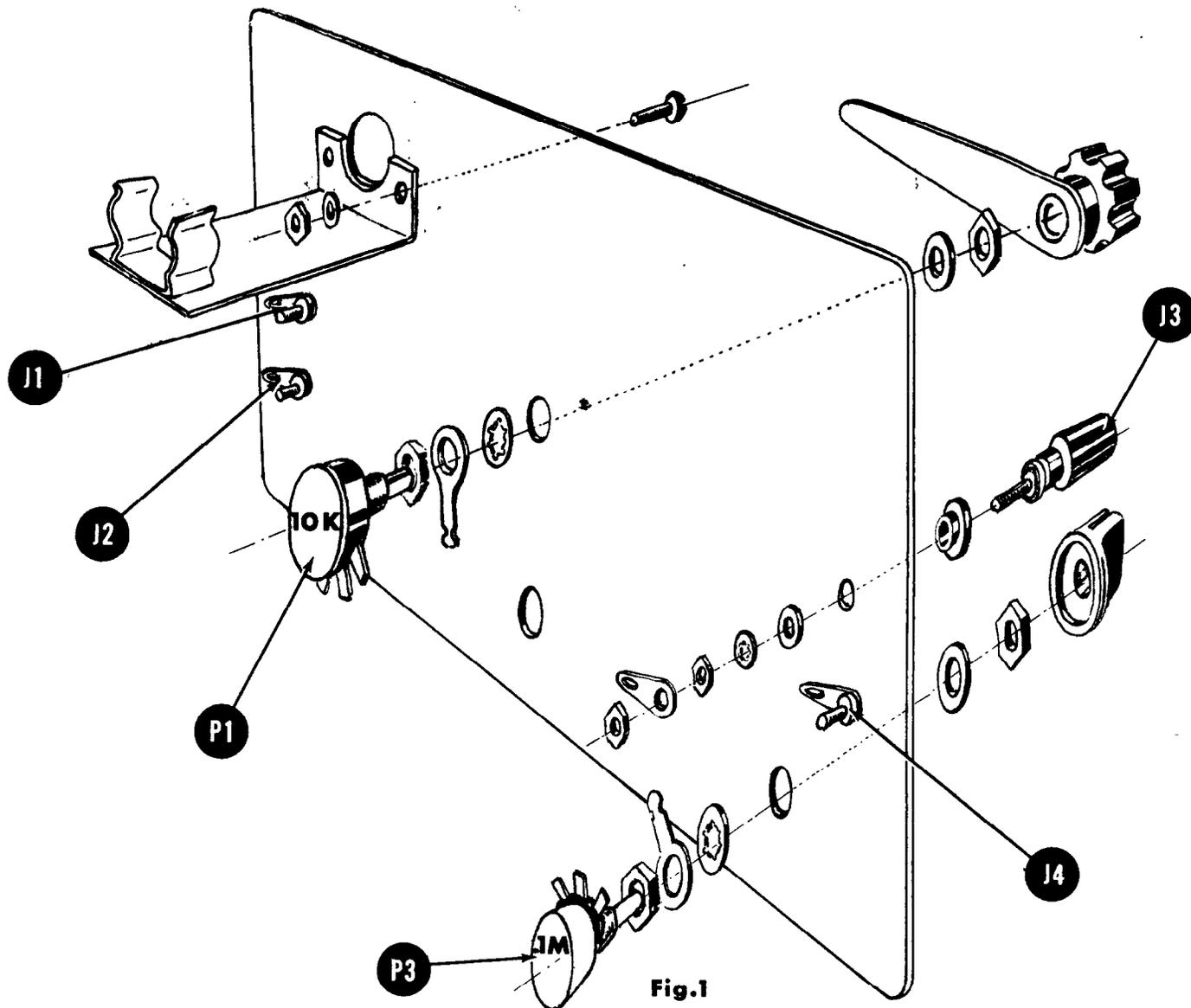


Fig.1

Fig. 1. Mount the four binding posts, J1-J4 as shown. Use one #8 fibre shoulder washer, one #8 flat fibre washer, one #8 lockwasher, one #8 solder lug, and two 8-32 hex nuts in mounting each.

Fig. 1. Mount the magic eye tube bracket to the panel. Use two #6-32 hex nuts, two #6 lockwashers, and two #6-32 X 1/4" screws.

Fig. 1. Mount the 10 K Ω bridge potentiometer, P1. Use two 3/8" hex nuts, one 3/8" flat washer, one 3/8" lockwasher, and one 3/8" ground lug. Position as shown.

Fig. 1. Mount the 1 M Ω voltage control potentiometer, P3. Use two 3/8" hex nuts, one 3/8" flat washer, one 3/8" lockwasher, and one 3/8" ground lug. Position as shown.

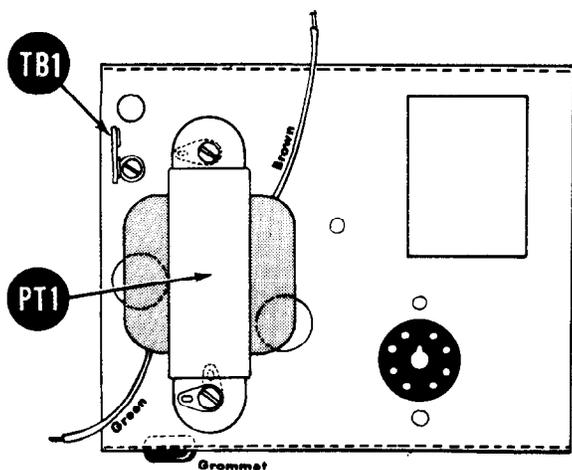


Fig. 2

- () Fig. 2. Mount the power transformer PT1 as shown. Use two 6-32 X 1/4" screws, two 6-32 hex nuts and three #6 solder lugs. Position the transformer and solder lugs as shown. Pass all leads through chassis holes except those shown above chassis.
- () Fig. 2. Mount the 1 post right terminal board TB1 with one 6-32 X 1/4" screw, one 6-32 hex nut, and one #6 lockwasher.
- () Fig. 2. Insert 3/8" rubber grommet for line cord in chassis hole located in the figure.

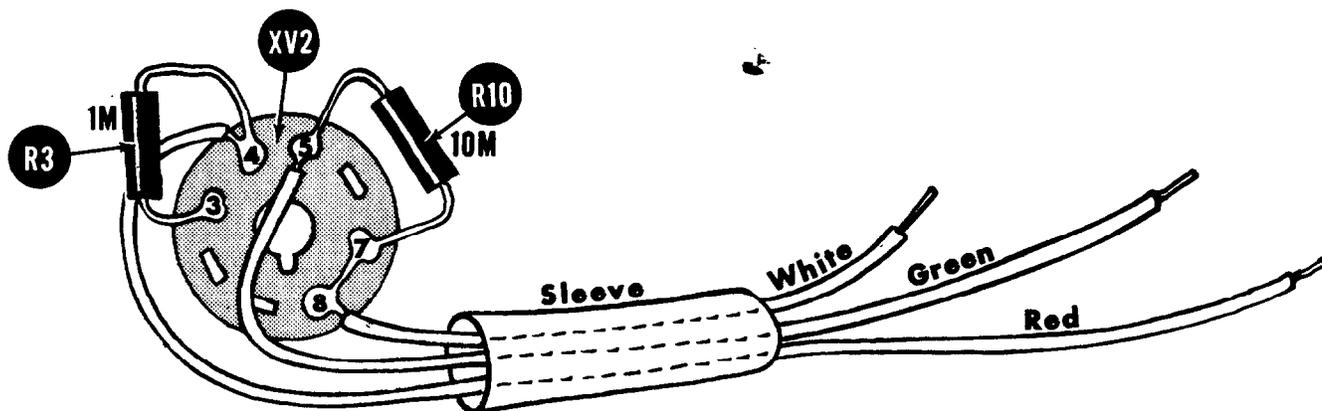


Fig. 3

WIRING: Important: Position all leads and components just as shown in drawings. Trim to suitable length wherever necessary. (C) means connect but do not solder. (S) means connect and solder.

- () Fig. 3. Connect the 1 MΩ resistor R3, from XV2-3 (S) to XV2-4 (C). (XV2 is the octal molded socket.)
- () Fig. 3. Connect a 9 in. length of red hook-up wire to XV2-4 (S).
- () Fig. 3. Connect a 11 in. length of green hook-up wire to XV2-5 (C).
- () Fig. 3. Connect the 10 MΩ resistor, R10, from XV2-5 (S) through XV2-7 (S) and to XV2-8 (C).
- () Fig. 3. Connect a 4 1/2 in. length of white hook-up wire from XV2-8 (S).
- () Fig. 3. Pass the 3 wires through the insulating sleeve.

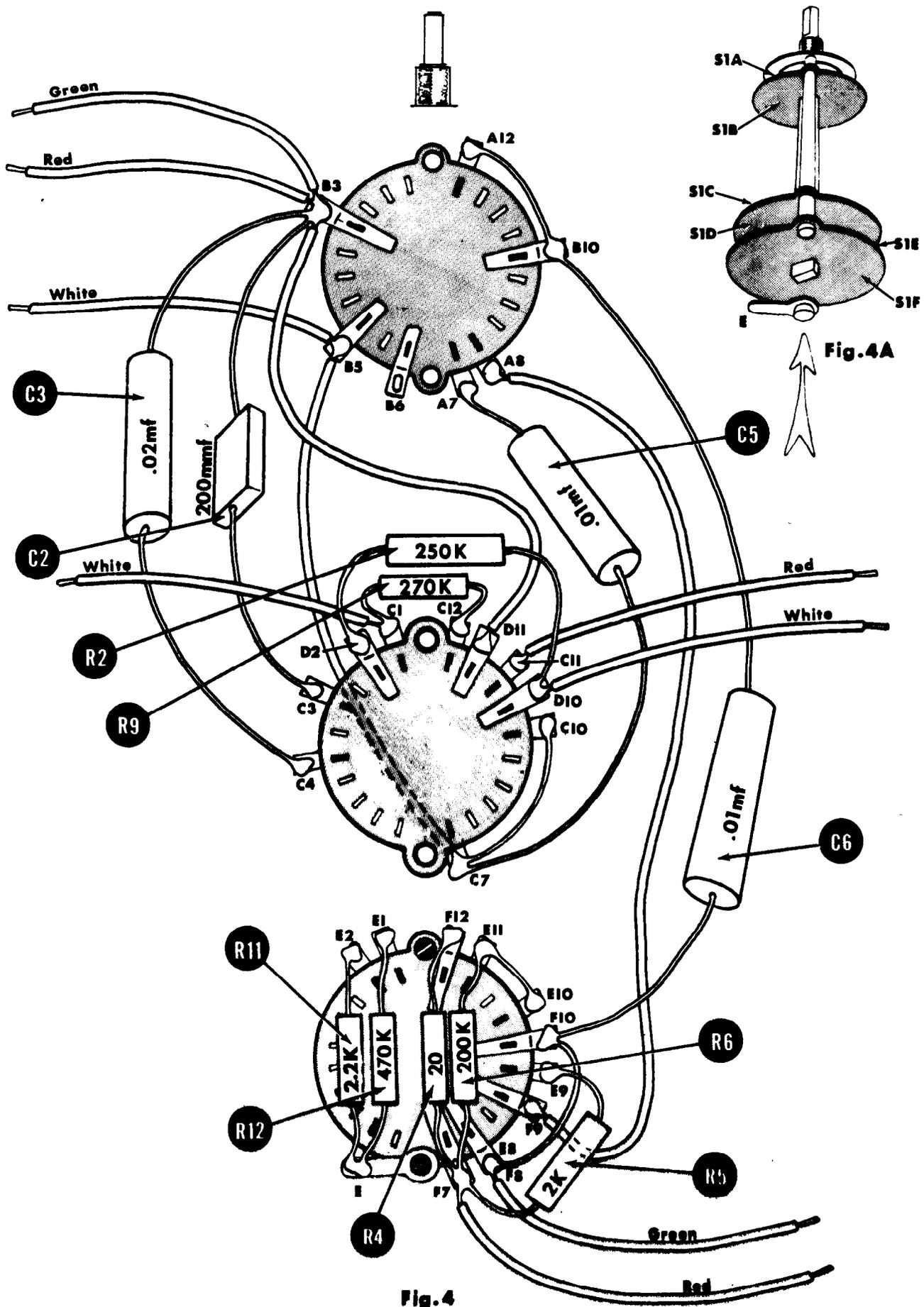


Fig. 4

The following instructions cover the prewiring of the range switch, S1, as shown in Fig. 4. To see the switch as shown in Fig. 4, hold it with the shaft pointing away from you and with the ground lug E on the under side. Fig. 4 A is a perspective drawing of switch, S1, indicating the view employed in Fig. 4.

- (f) Fig. 4. Connect a 2200 Ω resistor, R11, from E2 (S) to ground lug "E" (C).
- (f) Fig. 4. Connect a 470 K Ω resistor, R12, from E1 (S) to ground lug "E" (S).
- (f) Fig. 4. Connect a 20 Ω resistor, R4, from F12 (S) to F7 (C).
- (f) Fig. 4. Connect a 200 K Ω resistor, R6, from F7 (C) through E11 (S), to E10 (S).
- (f) Fig. 4. Connect a 2 K Ω resistor, R5, from E9 (S) to F7 (C).
- (f) Fig. 4. Connect a 5 1/2 in. length of red hook-up wire to F7 (S).
- (f) Fig. 4. Connect a short length of green hook-up wire from F10 (C) to F8 (C).
- (f) Fig. 4. Connect a 8 1/4 in. length of green hook-up wire to F8 (S). (E8 is electrically connected to F8 by rivet)
- (f) Fig. 4. Connect a length of green hook-up wire from A8 (S) to F9 (C).
- (f) Fig. 4. Connect a 270 K Ω resistor, R9, from C12 (S) to C1 (C).
- (f) Fig. 4. Connect a 3 in. length of white hook-up wire to C1 (S).
- (f) Fig. 4. Connect a 250 K resistor, R2, from D2 (S) to D10 (C).
- (f) Fig. 4. Connect a 5 in. length of white hook-up wire to D10 (S).
- (f) Fig. 4. Connect a 5 1/2 in. length of red hook-up wire to C11 (S).
- (f) Fig. 4. Connect a short length of hook-up wire from C7 (C) to B5 (C).
- (f) Fig. 4. Connect a 6 1/2 in. length of white hook-up wire to B5 (S).
- (f) Fig. 4. Connect a short length of bare wire from C7 (C) to C10 (S).
- (f) Fig. 4. Connect a .01 mf capacitor, C5, from C7 (S) to A7 (S).
- (f) Fig. 4. Connect a .01 mf capacitor, C6, from F10 (S), through B10 (S) to A12 (S).
- (f) Fig. 4. Connect a short length of white hook-up wire from D11 (S) to B3 (C).
- (f) Fig. 4. Connect a 200 mmf capacitor, C2, from C3 (S) to B3 (C).
- (f) Fig. 4. Connect a .02 mf capacitor, C3, from C4 (S) to B3 (C).
- (f) Fig. 4. Connect a 5 1/2 in. length of green hook-up wire to B3 (C).
- (f) Fig. 4. Connect a 4 1/2 in. length of red hook-up wire to B3 (S).

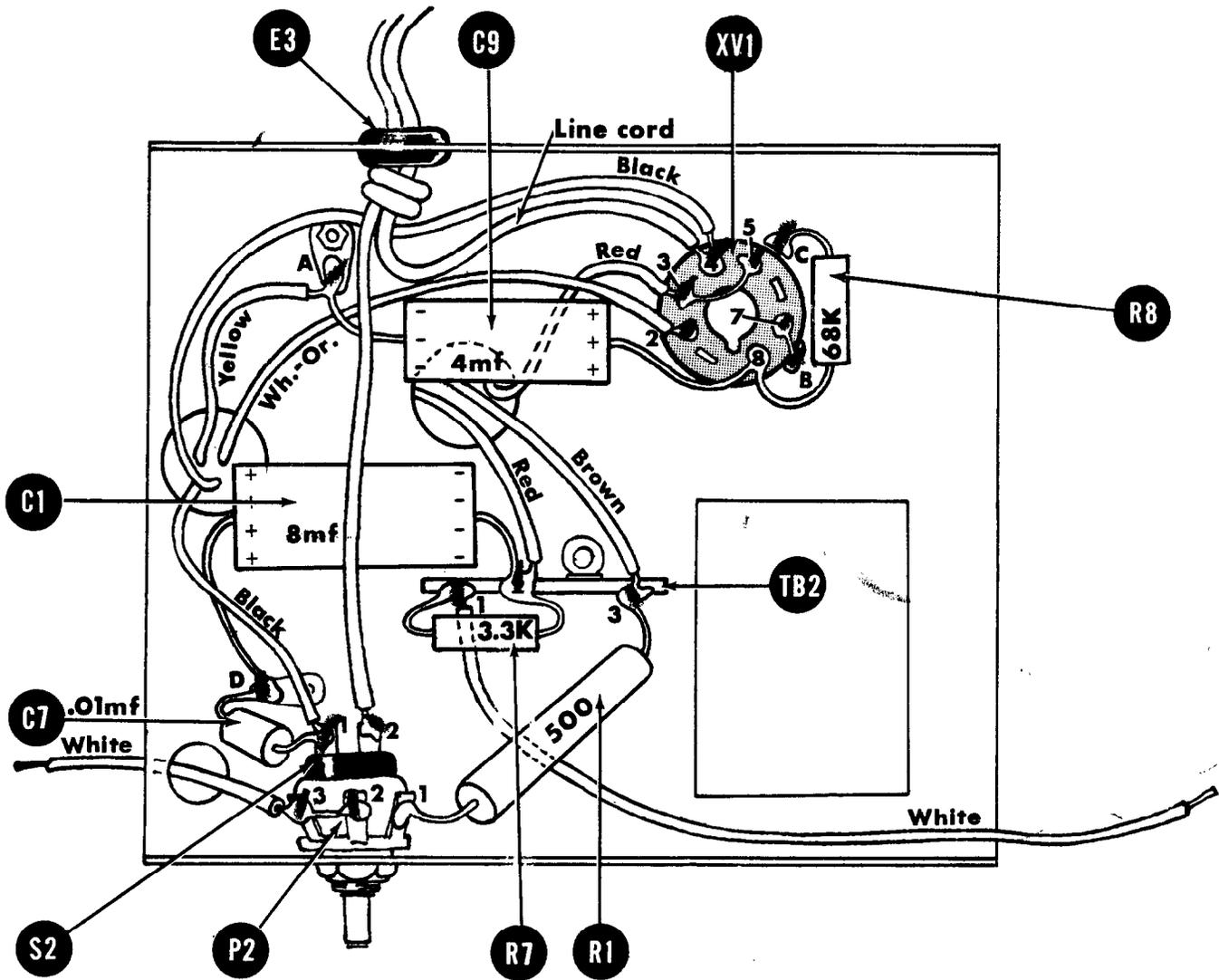


Fig.5

- (1) Fig. 5. Mount the 1 K Ω power factor potentiometer, P2, to chassis with one 3/8" hex nut, one 3/8" flat washer and one 3/8" lockwasher. This is a temporary mounting to facilitate the wiring.
- (2) Fig. 5. Connect black lead of power transformer PT1 to lug 1 of SPST switch S2 on potentiometer P2 (C).
- (3) Fig. 5. Connect the other black lead of power transformer PT1 to XV1-4 (C) (pin 4 of tube socket XV1).
- (4) Fig. 5. Connect yellow lead of power transformer PT1 to ground lug "A" (C).
- (5) Fig. 5. Connect orange-white lead of power transformer PT1 to XV1-2 (S).
- (6) Fig. 5. Connect brown lead of power transformer PT1 to TB2-3 (C).
- (7) Fig. 5. Connect red lead of power transformer PT1 to TB2-2 (C).
- (8) Fig. 5. Connect other red lead of power transformer PT1 through XV1-3 (S) to XV1-5 (S).
- (9) Fig. 5. Connect a short length of bare wire from XV1-7 (S) to ground lug "B" (S).
- (10) Fig. 5. Connect the 68 K Ω resistor, R8, from XV1-8 (C) to ground lug "C" (S).
- (11) Fig. 5. Connect the positive (+) lead of 4 mf capacitor C9 to XV1-8 (C) and the negative (-) lead to ground lug "A" (S).

- 1) Fig. 5. Connect the .01 mf capacitor, C7, from S2-1 (S) to ground lug "D" (C).
- 2) Fig. 5. Connect the 8 mf capacitor, C1, from TB2-2 (C) to ground lug "D" (S). (positive (+) lead to ground)
- 3) Fig. 5. Connect the 3.3K Ω resistor, R7, from TB2-2 (S) to TB2-1 (C).
- 4) Fig. 5. Connect a 8 1/2 in. length of white hook-up wire to TB2-1 (S).
- 5) Fig. 5. Connect the 500 Ω resistor, R1, from P2-1 (C) to TB2-3 (S).
- 6) Fig. 5. Connect an 3 in. piece of white hook-up wire through P2-3 (S) to P2-2 (S). Pass other end of lead through chassis hole.
- 7) Fig. 5. Insert line cord in grommet and knot 5" from stripped ends. Connect one lead to XV1-4 (S) and other lead to S2-2 (S).

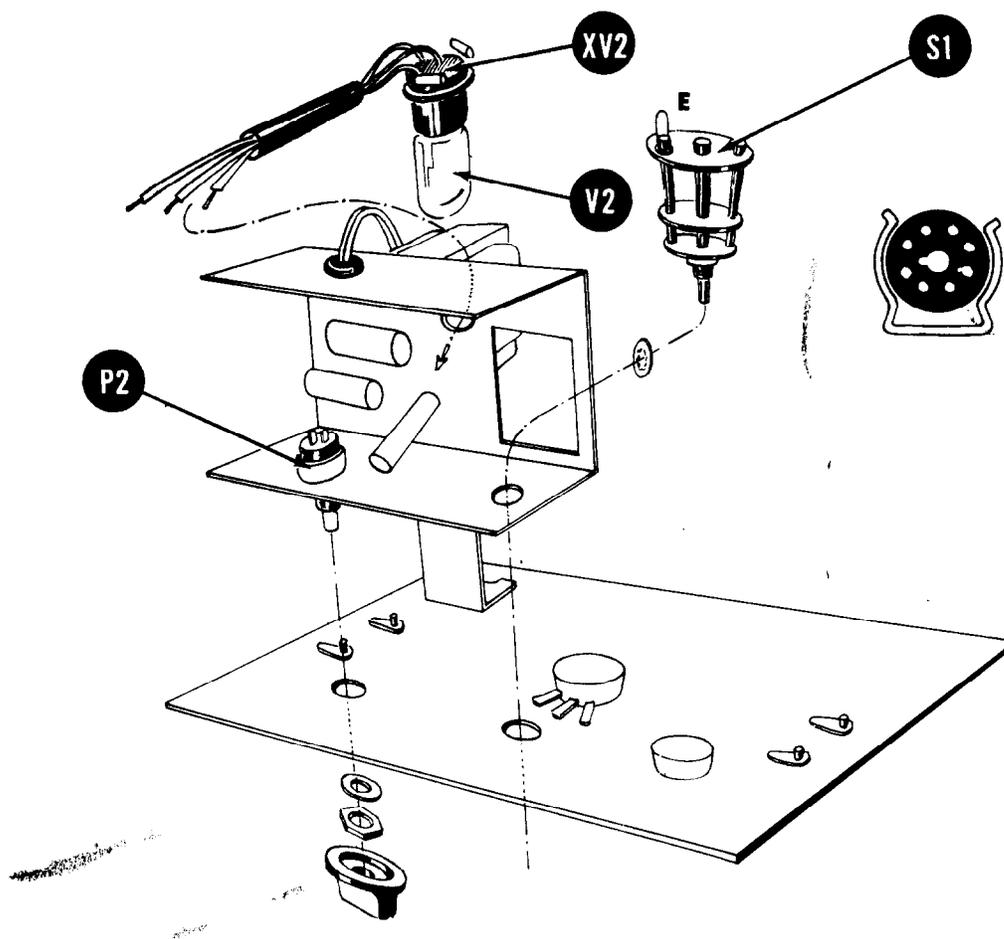


Fig.6

- 1) Fig. 6. Fasten the panel to the chassis using the 1 K Ω power factor potentiometer, P2. (Disassemble potentiometer from chassis and use same hardware to reassemble.)
- 2) Fig. 6. Likewise, install the rangeswitch, S1. Use one 3/8" hex nut, one 3/8" flat washer and one 3/8" lockwasher. Be sure to position the switch so that the side on which the ground lug is located faces the 1 K Ω power factor potentiometer, P2.
- 3) Fig. 6. Insert the 1629 tube in the prewired octal molded socket. Then press the tube into the holder so that the front of the tube just touches the panel and the keyway in the socket is positioned as shown in the small drawing (as seen from the rear).

- () Fig. 7. Connect brown lead of power transformer, PT1, to P1-1 (C). (P1 is the 10 K Ω potentiometer used as the bridge variable).
- () Fig. 7. Pass green lead of power transformer PT1 through sleeve and connect to XV2-2 (S).
- () Fig. 7. Connect the white wire from XV2-8 to ground lug "F" (S).
- () Fig. 7. Connect the 2 mf capacitor, C4, from TB1-1 (C) and pass the other lead thru the rectangular chassis hole.
- (/) Fig. 7. Connect the white wire from P2-3 to TB1-1 (S). This lead comes through the circular chassis hole.

- (/) Fig. 8. Connect the white wire from TB2-1 to P3-3 (S).
- (/) Fig. 8. Connect the green wire from S1-B3 to J3 (S).
- (/) Fig. 8. Connect the red wire from S1-B3 to P2-1 (S).
- (/) Fig. 8. Connect the white wire from S1-B5 to J2 (S). Pass thru chassis hole.
- (/) Fig. 8. Connect the free end of the 2 mf capacitor, C4, to S1-B6 (S). Use spaghetti.
- (/) Fig. 8. Connect the white wire from S1-D10 to P1-3 (S). Pass wire thru rectangular chassis hole.
- (/) Fig. 8. Connect the white wire from S1-C1 to P3-2 (C).
- (/) Fig. 8. Connect the .25 mf capacitor, C8, from P3-2 (S) to P1-2 (S). When soldering to P1-2 be sure to solder ground lug under potentiometer to this point.
- (/) Fig. 8. Solder ground lug under potentiometer, P3, to terminal 1. (Use a short length of bare wire)
- (/) Fig. 8. Connect the red wire from S1-C11 to J4 (S).
- (/) Fig. 8. Connect the red wire from S1-F7 to P1-1 (S). Pass wire thru rectangular chassis hole.
- (/) Fig. 8. Connect the green wire from S1-F8 to J1 (S). Pass wire thru circular chassis hole.
- (/) Fig. 8. Connect the green wire from XV2-5 to S1-F9 (S). Pass wire thru circular hole near center of chassis.
- (/) Fig. 8. Likewise, connect the red wire from XV2-4 to XV1-8 (S).

FINAL STEPS

You have now completed the assembly and wiring of your instrument. When you have completed the following steps, your instrument will be ready for use.

- 1) Make a careful examination of the unit to determine whether all joints are soldered properly. Check for loose lumps of solder and straighten out the wiring and components so that there are no accidental shorts.
- 2) The flowing of rosin between switch contacts causes leakage. If examination reveals the presence of rosin, remove it by briskly cleaning the area between the contacts with a stiff brush saturated with carbon tetrachloride. Be very careful not to spring the contacts when cleaning switches.
- 3) Insert the 6X5 tube in the octal socket on the chassis.

4) Align the control knobs as follows:

a) Fasten a knob to the POWER FACTOR control. First turn it clockwise to ensure that it is in the "AC ON" position, and then turn it counter-clockwise until the "AC OFF" position is "felt". Do not turn to the "AC-OFF" position. Loosen the knob set screw, line the knob up with the "O" position on the power factor dial, and retighten the set screw.

b) Fasten a knob to the RANGE switch and turn it to the extreme counter-clockwise position. Loosen the knob set screw, line up the knob with the "10 mmf - 5000 mmf" position on the range dial, and retighten the set screw. (The set screw should tighten against the "flat" on the switch shaft. If it does not, loosen the nut securing the switch and adjust the switch until the "flat" is in the required position.)

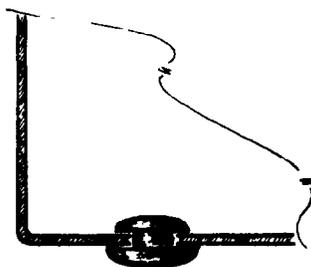
c) Fasten a knob on the "VOLTAGE potentiometer and turn it to the extreme clockwise position. Loosen the knob set screw, line the knob up with the 500 position on the voltage dial, and retighten the set screw.

5) Connect an ohmmeter from B plus (V1-8) to ground; the resistance should not be less than 50,000 ohms nor should it vary as the RANGE switch is rotated. Then connect the ohmmeter from B minus (V1-3 or 5) to ground; the resistance should not be less than 60,000 ohms nor should it vary as the range switch is rotated. If any of the above conditions do not obtain, recheck the circuit (B plus or B minus as required). Do not apply power until the trouble is remedied.

6) Insert the line cord and turn the instrument on by rotating the AC switch on the POWER FACTOR potentiometer clockwise. The filaments should light immediately. If not, turn the instrument off and check the filament circuit. Do not leave the power on as this could damage the power transformer. The magic eye tube should show a green glow within 1 minute. If not, recheck the B plus circuit.

7) CALIBRATION: Turn the instrument on and allow a few minutes for warm-up. Set the RANGE switch at the "5 K Ω - 5 M Ω " position, and connect the 200 K Ω (.2 M Ω) precision calibrating resistor provided across the "CAP.-RES. TEST" binding posts. Fasten the pointer indicator knob to the shaft of the center potentiometer. Rotate the center potentiometer until the eye shows maximum opening (bridge balance). Loosen the knob set screw, set the pointer at .2M on the dial, and retighten the set screw. Check to determine whether or not any shaft movement has occurred during the knob resetting process. If the eye shows maximum opening with the pointer set at .2M on the dial, no shaft movement has occurred and the calibration is completed. Remove the 200 K Ω precision resistor and store it for reference.

8) Install the rubber feet in the openings provided in the bottom of the cabinet as shown. The method is to work the rounded portion of each foot into interior of the cabinet from the outside, using a small screw driver. The flat portion should be the actual resting or contact surface.



9) Mount the handle on the cabinet with 2 #10-24 screws as shown in Fig. 9.

10) Run the ac line cord through the rear cabinet opening and insert the completed unit in the cabinet. Align the hole in the cabinet rear and the rear chassis apron and insert 1 #6 P.K. screw. Then align the 8 panel holes with the corresponding holes in the cabinet flange and insert 8 #6 P.K. screws. Tighten all screws.

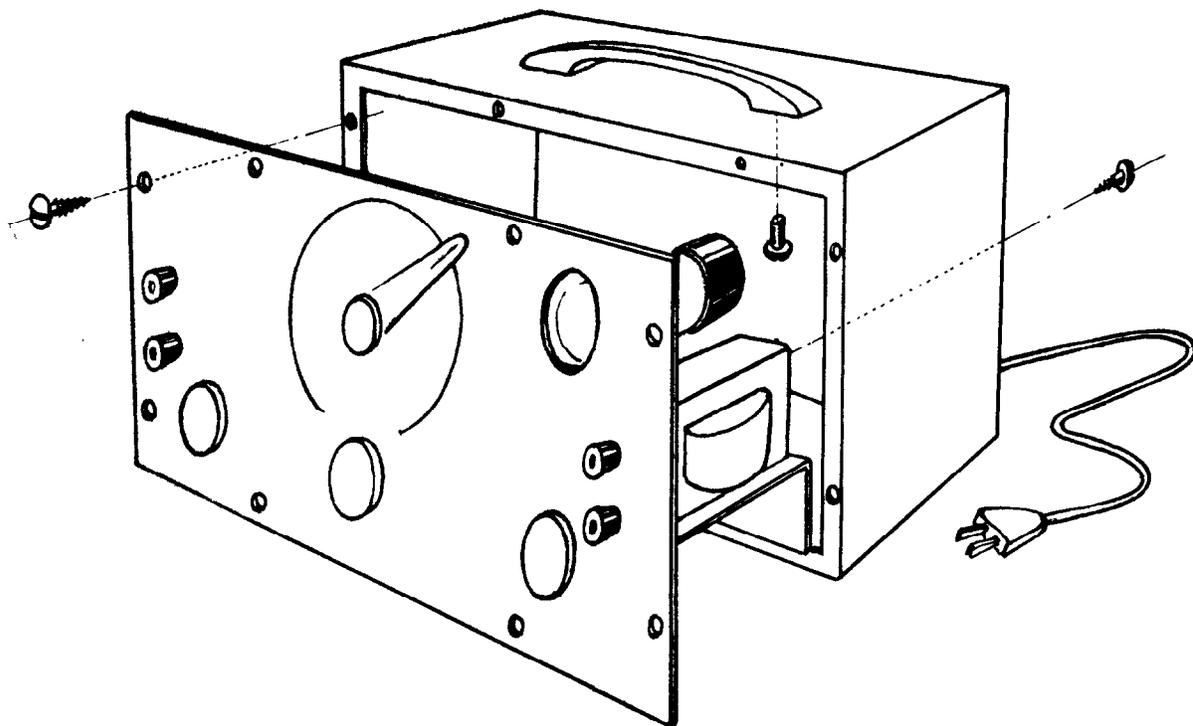


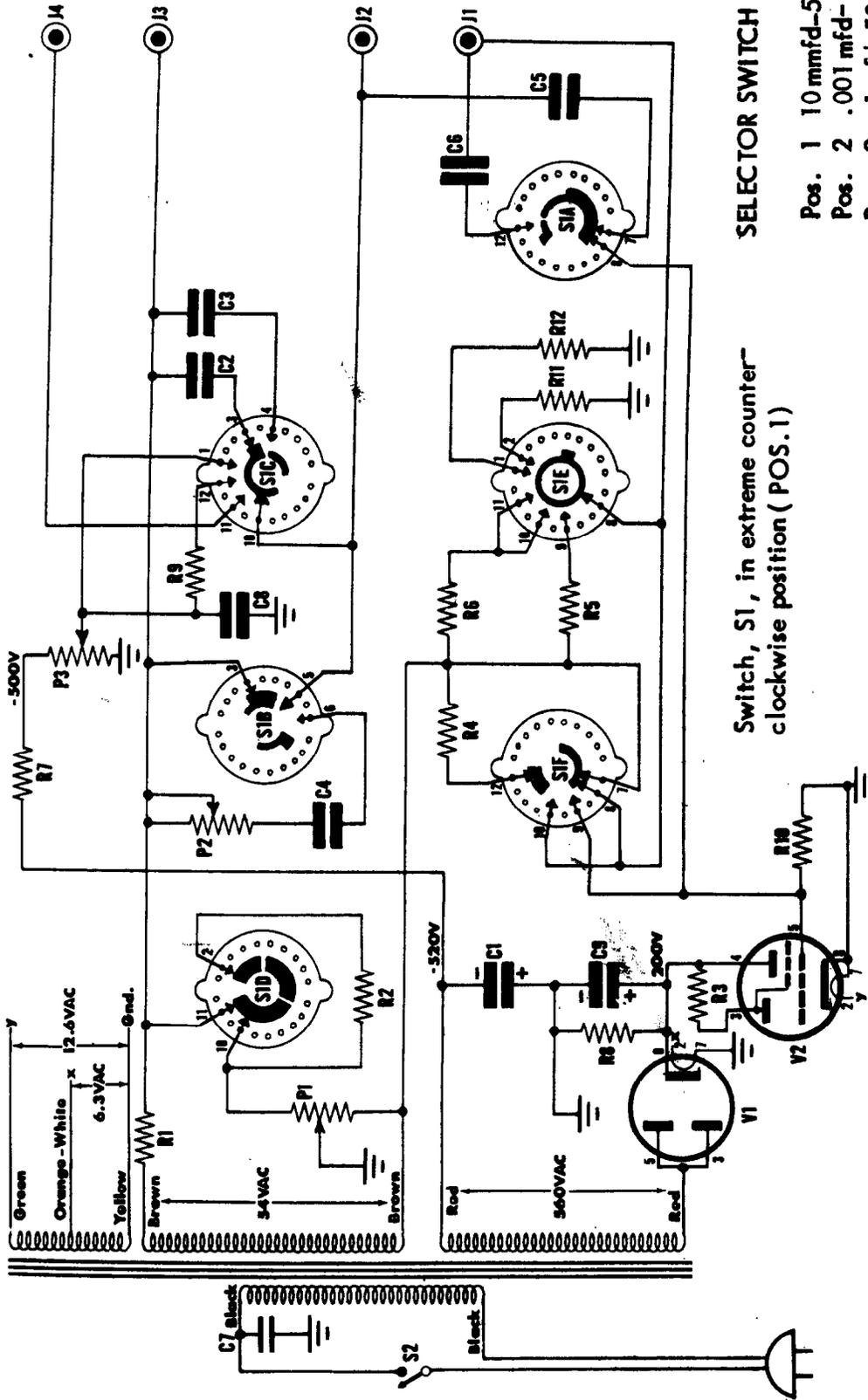
Fig.9

NOTES

If the instrument fails to operate properly, recheck the wiring for errors or reversed connections, test for continuity, and check individual components for breakdown. Check all dc and ac operating voltages given in the schematic diagram keeping mind that all voltages may vary from the values shown by as much as 20% due to component tolerance, line voltage variations, and the type of measuring instrument used (schematic voltages were measured with VTVM). In addition, make the following checks: RANGE switch wiring; panel binding post mounting for possible shorting through incorrectly mounted shoulder and fiber washers; polarity of electrolytic capacitors in power supply as compared to polarities indicated in the schematic diagram.

SERVICE

If you are still having difficulty, write to our service department listing all possible indications that might be helpful. If desired, you may return the instrument to our factory where it will be placed in operating condition for \$3.50 plus the cost of parts replaced due to their being damaged in the course of construction. This service policy applies only to completed instruments constructed in accordance with the instructions as stated in the manual. Instruments that are not completed or instruments that are modified will not be accepted for repair. Instruments that show evidence of acid core solder or paste fluxes will be returned not repaired. NOTE: Before returning this unit, be sure all parts are securely mounted. Attach a tag to the instrument, giving your home address and the trouble with the unit. Pack very carefully in a rugged container, preferably wood, using sufficient packing material (cotton, shredded newspaper, or excelsior), to make the unit completely immovable within the container. The original shipping carton is satisfactory, providing the original inserts are used or sufficient packing material is inserted to keep the instrument immovable. Ship by prepaid Railway Express, if possible, to the Electronic Instrument Co., Inc., 84 Withers Street, Brooklyn 11, New York. Return shipment will be made by express collect. Note that a carrier cannot be held liable for damages in transit if packing, IN HIS OPINION, is insufficient.



Switch, S1, in extreme counter-clockwise position (POS.1)

SELECTOR SWITCH POSITIONS

- Pos. 1 10 mmfd-5000 mmfd
- Pos. 2 .001 mfd-.5 mfd
- Pos. 3 .1 mfd-50 mfd
- Pos. 4 50 mfd-5000 mfd
- Pos. 5 .5 Ω - 500 Ω
- Pos. 6 50 Ω - 50K Ω
- Pos. 7 5K Ω - 5M Ω
- Pos. 8 5M Ω - 500M Ω
- Pos. 9 Comparator
- Pos. 10 Paper-Mica Test
- Pos. 11 Electrolytic Test

Sym.	Description	Sym.	Description
C1	cap., elec 8 mfd-525 V	R9	pot., 100KΩ, 4W
C2	cap., 200 mmf, prec.	R10	res., 500Ω, 4 W
C3	cap., .02 mf, prec.	R11	res., 250K, 1/2W, 1%
C4	cap., 2 mf, prec.	R12	res., 1MΩ, 1/2W
C5,6,7	cap., .01 mf-400V	S1	switch, range
C8	cap., .25 mf-600V	S2	switch, SPST, p/o P2
C9	cap., elec 4 mfd-250V	V1	tube, 6X5
P1	pot., 10KΩ	V2	tube, 1629
P2	pot., 1KΩ w/SPST		

MODEL 950B

RESISTANCE-CAPACITANCE-COMPARATOR BRIDGE



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