

KIT-232A-I  
S948

# TMC SPECIFICATION

NO. 9-948

REV	A	B	C	D																
COMPILED:	A.E.M.			CHECKED:	LG.	APPD:	JB	SHEET	1	OF	9									

TITLE:

MODIFICATION KIT - 232-A  
FOR PSP - 350-A  
POWER SUPPLY (PART 1)

# TMC SPECIFICATION

NO. S-948

REV: 0 A B C D

COMPILED: CHECKED: APPD: SHEET 2 OF 9

TITLE: MODIFICATION KIT -232-A FOR PSP-350-A POWER SUPPLY

- A. The following Modification Kit-232-A is issued for The Conversion of of the PSP-350-A power supply unit, converting from standard 866-A type Mercury Vapor Rectifiers and 5R4GY High Vacuum Rectifiers to solid state type rectifiers. Included also in the kit are "Transient Suppressors", R-120 and R- 121, in the H.V. filter.
- B. The purpose of Kit-232-A is to provide solid state rectification and reduce transients which have in the past caused component break-down.
- C. When the Modifications have been completed a modification nameplate shall be affixed to the back of the PSP-350-A directly to the left of the Mfg. number.
- D. MATERIAL REQUIRED AND FURNISHED WITH KIT-232-A.

<u>ITEM</u>	<u>SYMBOL</u>	<u>QTY.</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>
1	R120	1	A-4235-2	50/OHMS 25/WATTS Resistor Ass'y.
2	R121	1	A-4235-1	50/OHMS 25/WATTS Resistor Ass'y.
3	CR102	1	INI239	Rectifier
4	CR104-103	2	DD-127	Rectifier
5		1	CA-377-9	8" H.V. Lead
6		1	CA-377-10	12" H.V. Lead
7		1	WL-100-4	3" #16 Bus Wire
8		1	TP131-1-CR102	Rubber Stamp
9		1	TP131-1-CR103/ CR104	Rubber Stamp.
10		1	TP131-2-R120/ R121	Rubber Stamp
11		1	Stamp Pad	Stamp Pad
12		1	NP-362-39	Modification Nameplate.

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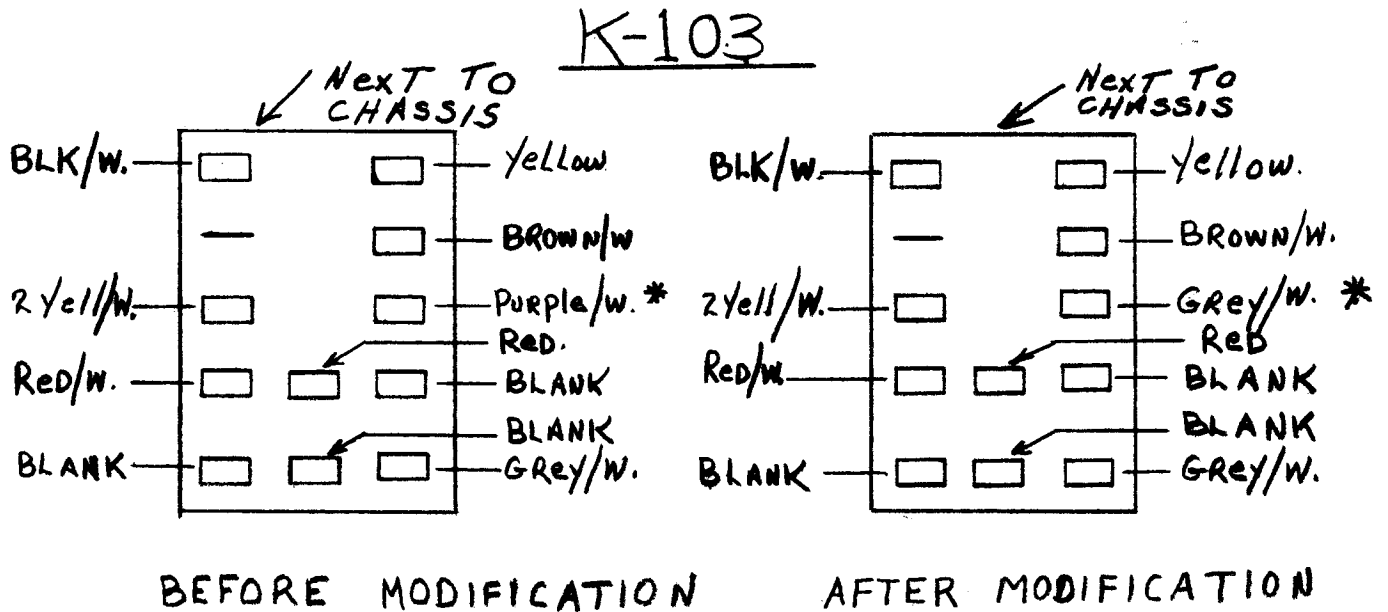
REV: 0 A B C D

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TITLE: MODIFICATION KIT -232-A FOR PSP-350-A POWER SUPPLY

## E. PROCEDURE

1. Remove PSP-350-A from associated equipment. Remove Top and Bottom cover and turn unit upside down.
2. Remove two (2) Purple/White leads from Pin-8 of T-101, splice together, solder and tape.
3. Remove Purple/White Lead on Relay K-103 and solder it to Pin-8 of XV101. Remove Grey/White wire from Pin-8 of XV101 and solder it to Relay K-103 contact from which was removed the Purple/White wire. (SEE FIGURE 1).
4. Remove Grey/White wire from Pin-9 of T-101 and solder it to Pin-8 of T-101.



\* SEE STEP 3 IN PROCEDURE.

FIGURE 1.

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TITLE:

MODIFICATION KIT-232-A FOR PSP-350-A POWER SUPPLY

5. Turn PSP-350-A on its side with C-104, C105, C-106 Facing the work bench.
6. Refer to Figure #2 and #3.  
Remove existing Red H.V. lead (CA-377-1) which connects L-103 to L-104 and replace this lead with the resistor Assembly, A-4235-2 (ITEM #1), with 2 attached leads. SEE FIGURE #3 for resistor mounting detail.
7. Remove existing Red leads from between L-104 and C-105 and L-104 and bleeder resistor R-105. DISCARD.
8. Mount the second resistor assembly (A-4235-1), ITEM #2, and solder the end of the resistor which has no wire attached directly to L-104. The other end with wire and LUG connects to C-105.
9. Connect Item #5, 8 inch Red lead (CA-377-9) with LUG from Resistor R-105 and C-105. Replace NUT on C-105 and Tighten.  
(REFER TO FIGURE #3).
10. Remove wires from Pins-11 and 13 of T-101.
11. Remove wire connected between terminal 12 of T-101 and L-103 (CA-377-3) and DISCARD.
12. Remove Top cover of PSP-350-A and TAKE OUT rectifier tubes; 866-A and 5R4GY.
13. With rectifiers removed drop rectifier Sub-Assembly (Phenolic) by Removing 4 corner screws on bottom and Unsolder Filament Cable (CA-10138) DISCARD.CABLE CA-10138.
14. Solder A short jumper of No. 16 tinned wire (Item #7) between terminals 1 and 4 of tube sockets. XV-103, XV-104.
15. Solder one End of Item #6, 12 inch RED H.V. lead, (CA-377-10) from Pin-1 or 4 of H.V. rectifier socket to L-103.  
REPLACE SUB-ASSEMBLY (REFER FIGURE #3).

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TITLE:

MODIFICATION KIT-232-A FOR PSP-350-A POWER SUPPLY

16. Install new solid state rectifiers.  
DD-127 (C699) Item #4 in sockets XV103, XV104, which held 866-A and IN1239, Item #3, in 5R4GY socket XV101.
17. Re-Stamp V101 to Read CR102  
V103 to Read CR103  
V104 to Read CR104  
Stamp R120 - R121 Directly below the resistors concerned.  
(SEE FIGURE #3). Use Items 8, 9, 10, 11.
18. Replace TOP and BOTTOM covers.
19. Affix Modification nameplate sticker Item 12 (NP-362-39) on back of PSP-350-A alongside MFG. number.
20. THIS COMPLETES MODIFICATION KIT-232-A.

# TMC SPECIFICATION

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REV: 0 A B C D

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TITLE:

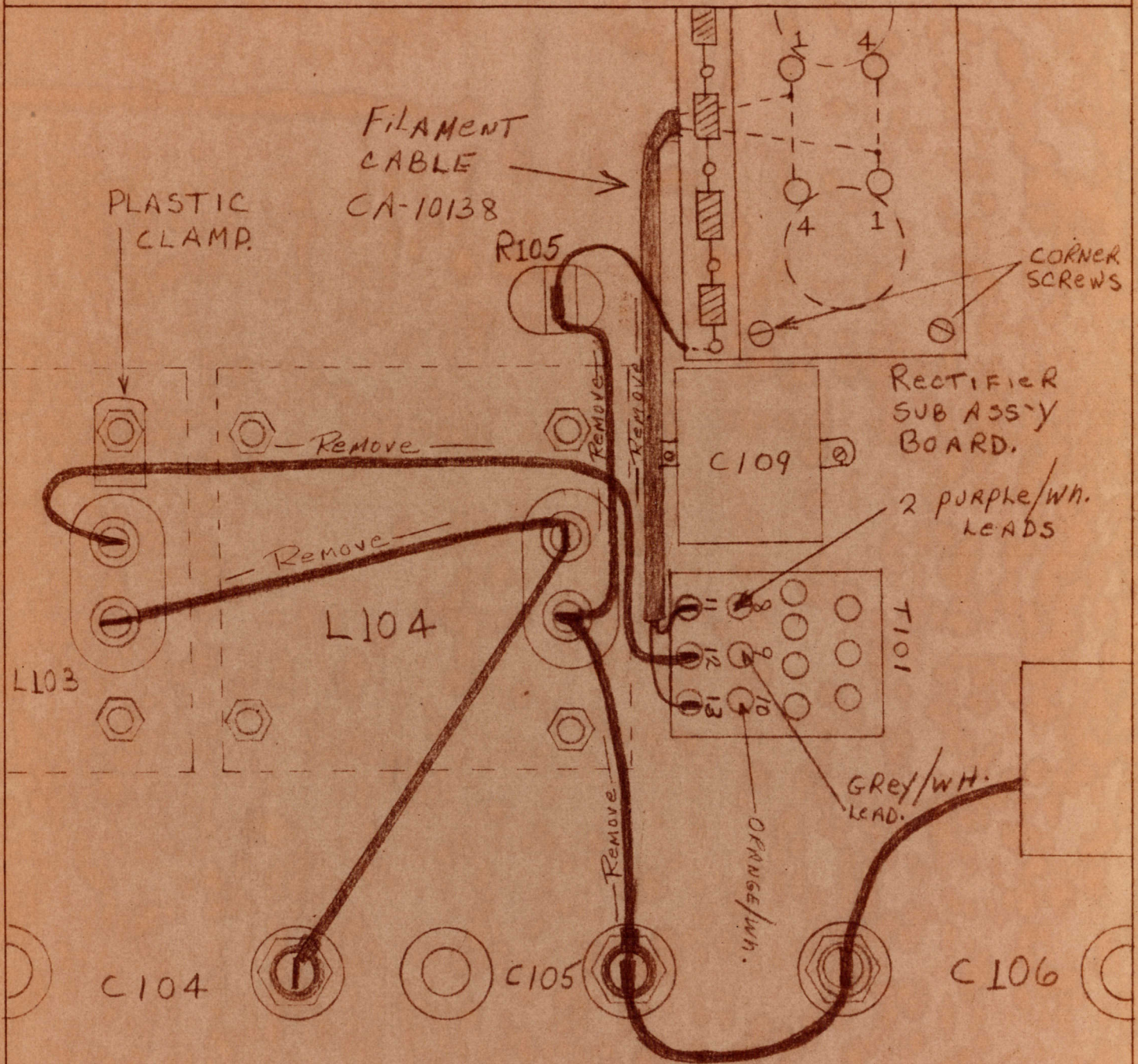


FIGURE - 2.

"BEFORE MODIFICATION"

# TMC SPECIFICATION

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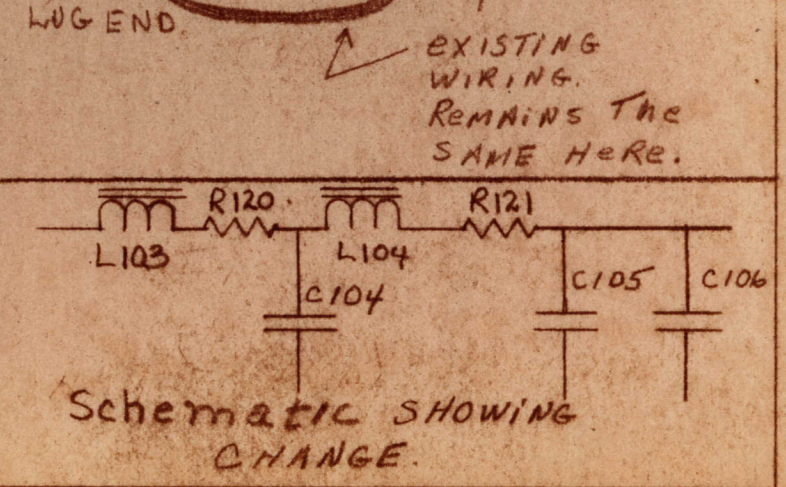
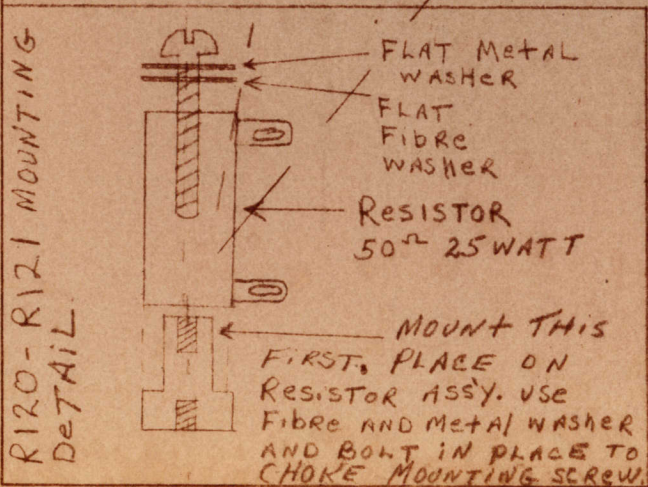
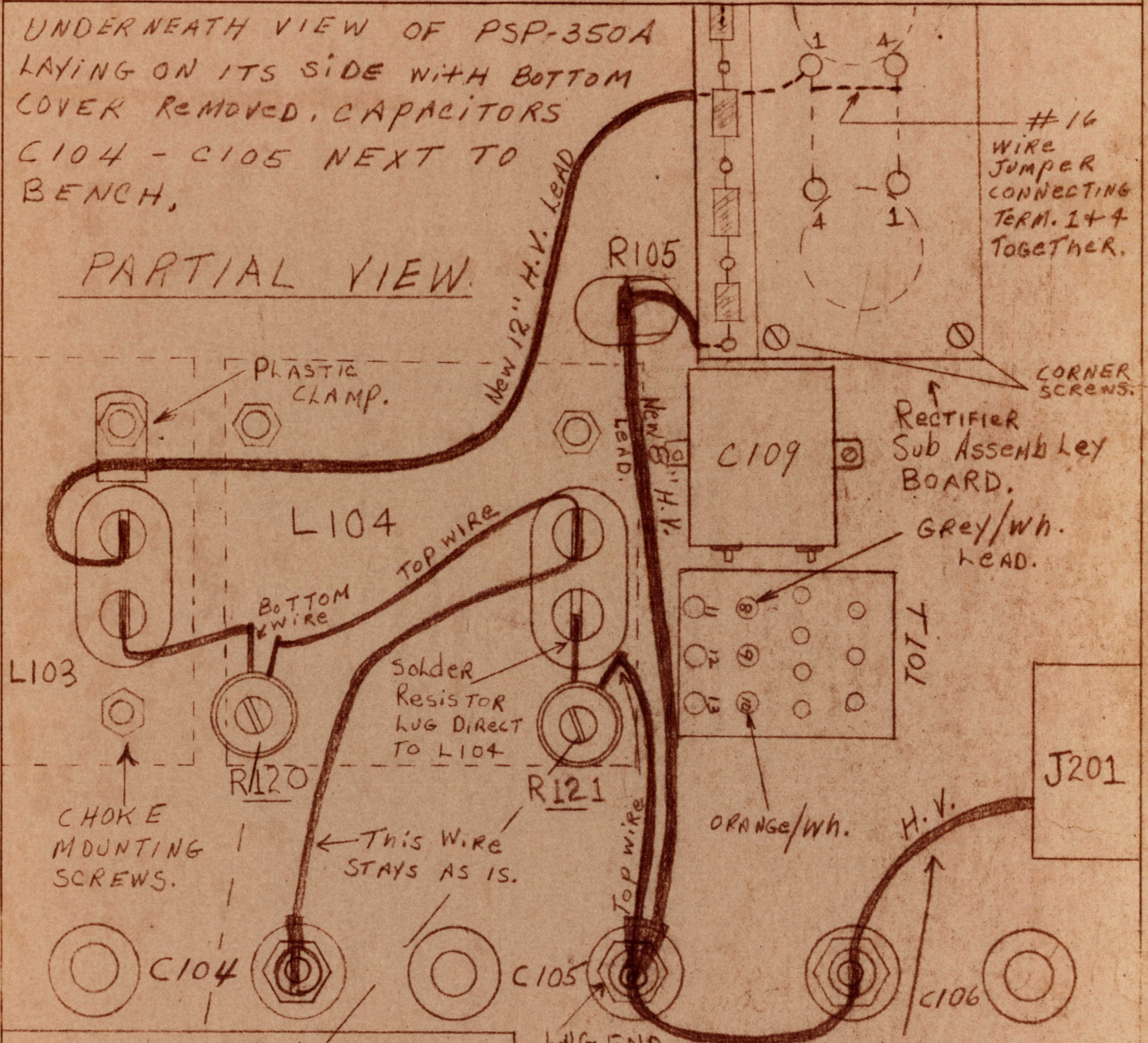
SHEET 7 OF 9

TITLE:

## AFTER MODIFICATION

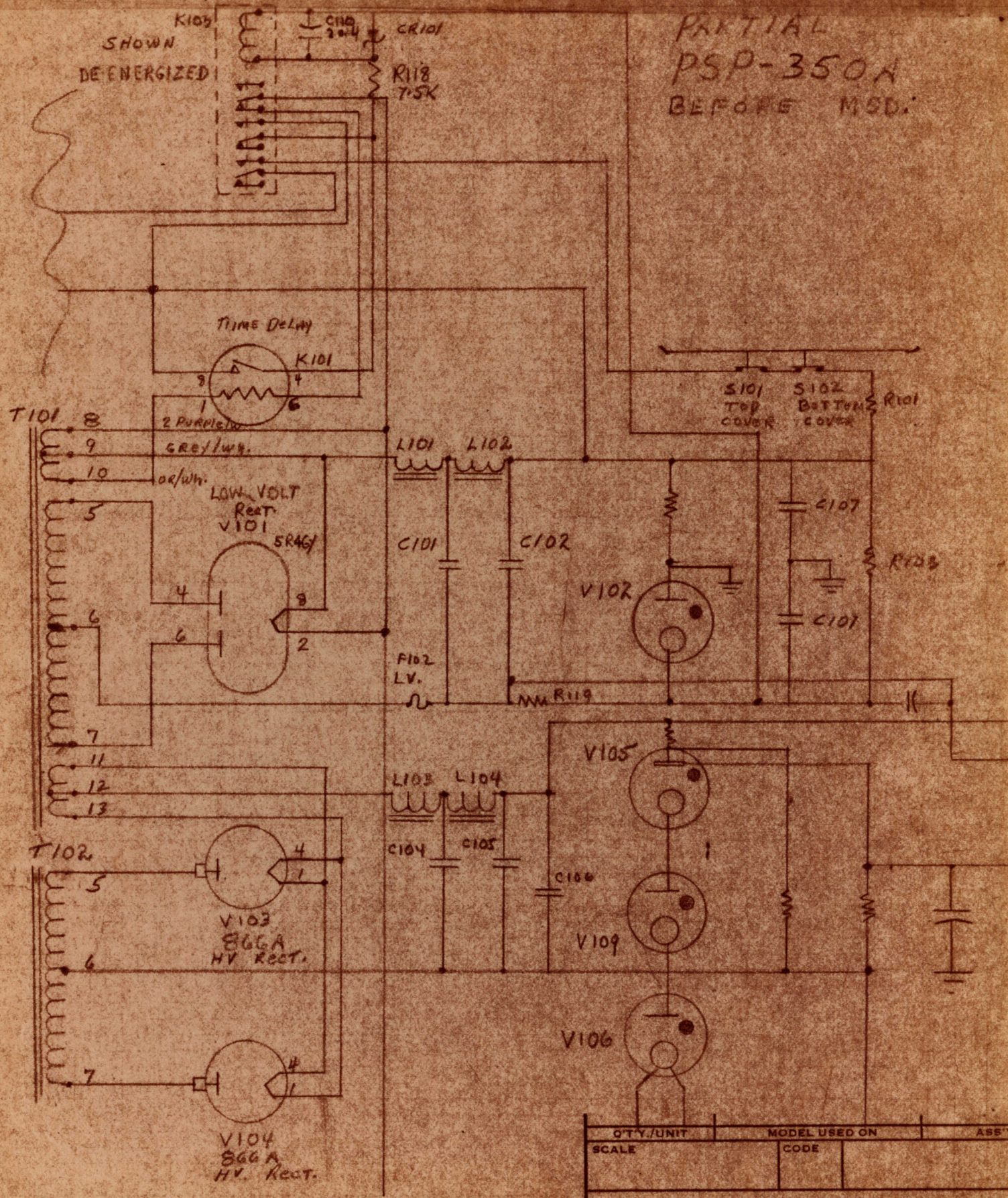
UNDERNEATH VIEW OF PSP-350A  
LAYING ON ITS SIDE WITH BOTTOM  
COVER REMOVED. CAPACITORS  
C104 - C105 NEXT TO  
BENCH.

### PARTIAL VIEW.



D

PARTIAL  
PSP-350A  
BEFORE MSD.



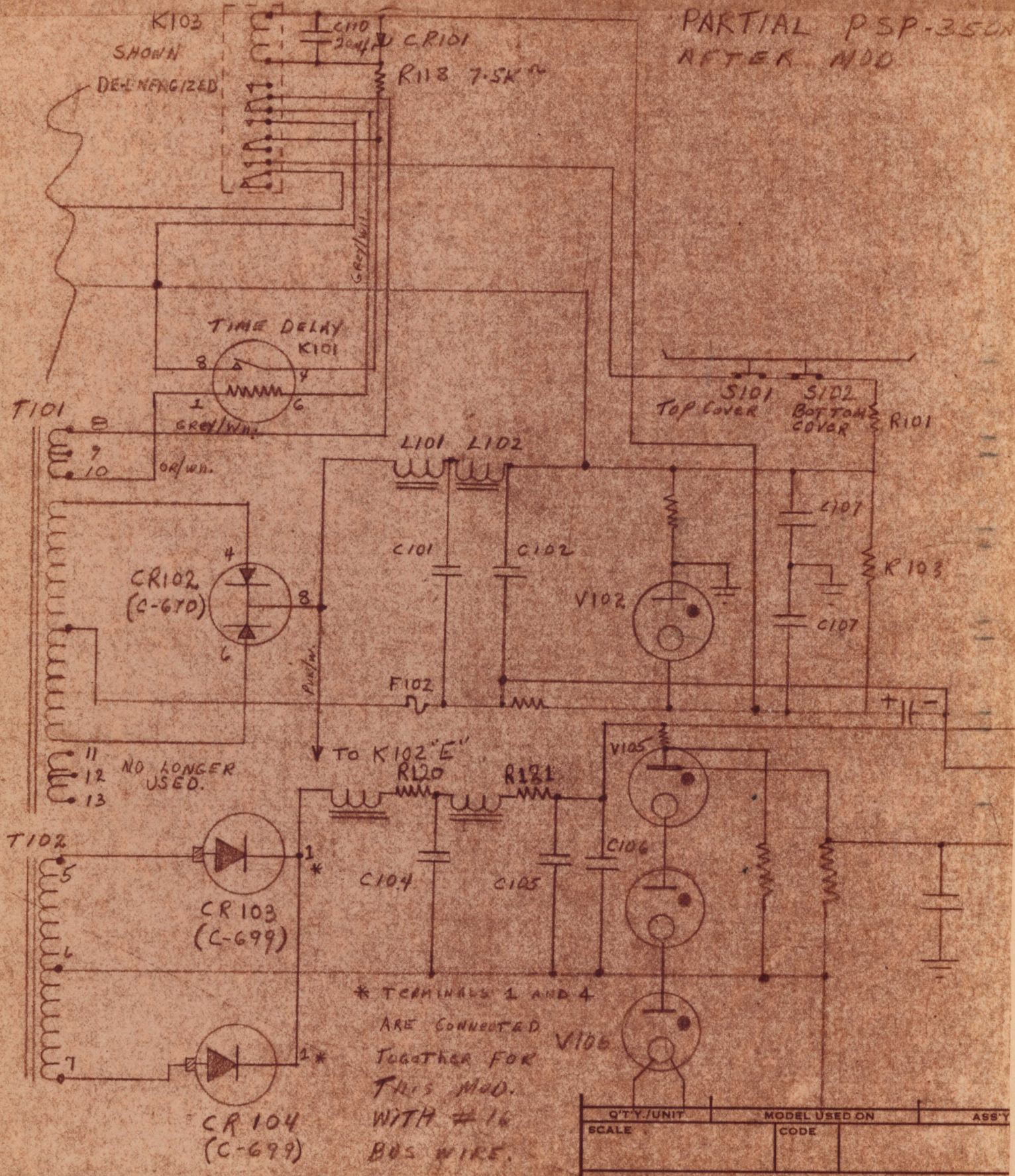
NOTES

QTY./UNIT	MODEL USED ON	ASSY
SCALE	CODE	

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PARTIAL PSP-350A  
AFTER MOD



K103  
SHOWN  
DE-ENERGIZED

TIME DELAY  
K101

S101  
TOP COVER  
S102  
BOTTOM  
COVER

CR102  
(C-670)

CR103  
(C-699)

CR104  
(C-699)

11  
12  
13  
NO LONGER  
USED.

\* TERMINALS 1 AND 4  
ARE CONNECTED  
TOGETHER FOR  
THIS MOD.  
WITH #16  
BOS WIRE.

NOTES

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KIT-232A-II  
\$948

<b>TMC SPECIFICATION</b>												NO. S 948									
REV:	A	B	C	D																	
COMPILED:	R.E.M.					CHECKED:		APPD:	OB		MM	SHEET	1	OF	4						
TITLE:																					

MODIFICATION KIT-232-A  
FOR RFA-100  
POWER AMPLIFIER (PART 2)

# TMC SPECIFICATION

NO. S 948

REV: **A B C D**

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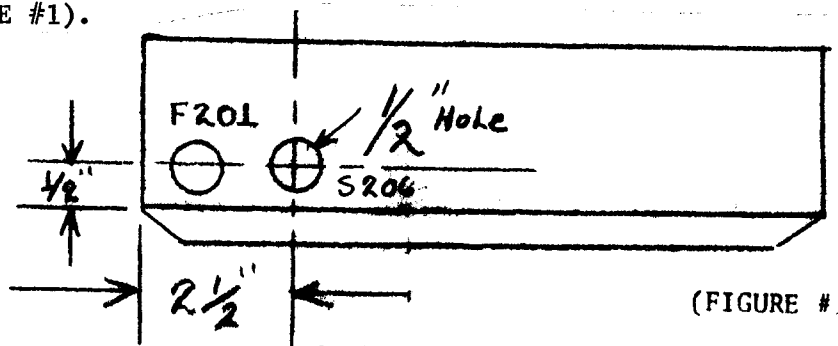
TITLE: **MODIFICATION KIT-232-A FOR RFA-1 POWER AMPLIFIER (PART 2)**

- A. The following changes are made to the PAL-350-A (RFA1A) Linear Amplifier. Upon completion of changes PAL-350-A becomes PAL-350-B.
- B. The modification permits Class "C" operation for CW.
- C. Material required and furnished with Kit-232-A Part 2.

<u>ITEM</u>	<u>SYMBOL</u>	<u>QTY</u>	<u>TMC PART NO.</u>	<u>DESCRIPTION</u>
1	S206	1	ST-22-K	DPST TOGGLE SWITCH
2	R235	1	RC32GF104K	100K/ohms 1WT. RES.
3	CR204/205	2	1 N 645A	Diodes
4		1	SCBP0440BN7	Screw 0440 7/16"
5		1	TE102-2	STAND/OFF INS.
6		1	MWC20(7)U4	14" Yellow
7		1	MWC20(7)U94	12" YELLOW/WHITE
8		1	MWC20(7)U94	5" " "
9		1	NP360-7	NAMEPLATE
10		1	EY-102-1	GROMMET
11		1	LD1985/MS4722	TOP COVER (Perforated)
12		1	MS4723	BOTTOM COVER (Perforated)
13	R223	1	RC20GF223J	RES,FXD,22K
14		1	MS4724	COVER DRIVER,CHASSIS (Perforated)

**D. PROCEDURE**

1. Remove Top and Bottom Covers, Driver Chassis cover, and discard. Remove Bottom PA Shield. (4 small screws). Remove PA Airflow shield; (curved section), by removing 3 retaining screws from top of units.
2. Mount DPST Toggle Switch S-206 on Rear of Chassis next to Fuse Holder XF-201. (SEE FIGURE #1).



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TITLE: **MODIFICATION KIT-232-A FOR RFA-1 POWER AMPLIFIER (PART 2)**

3. Drill small hole 3/16" in bottom section of compartment in area of C-261. Insert Grommet in hole.
4. Locate R-215, A 22K 1 Watt Resistor nearest blower exhaust and unsolder from ground END.
5. Install STAND/OFF insulator TE-102-2 area R-215. Replace PA sub ass'y Mounting Screw with (SCB ~~440~~ 440BN7) 7/16, 440 Screw. Glyptal Base of Insulator and Mounting Nut. Solder Loose END of R-215 to STAND/OFF.
6. Run a wire from bottom terminal (nearest to XF201) of DPST switch S206 through Grommet and connect to R215, the END, which ties to STAND/OFF insulator. (REFER TO FIGURE #2).
7. Connect A 100K/ohms 1 watt resistor from the ground lug formerly used by R-215, to the STAND/OFF insulator, Solder.
8. Connect the other associated connection of the DPST switch to ground lug.

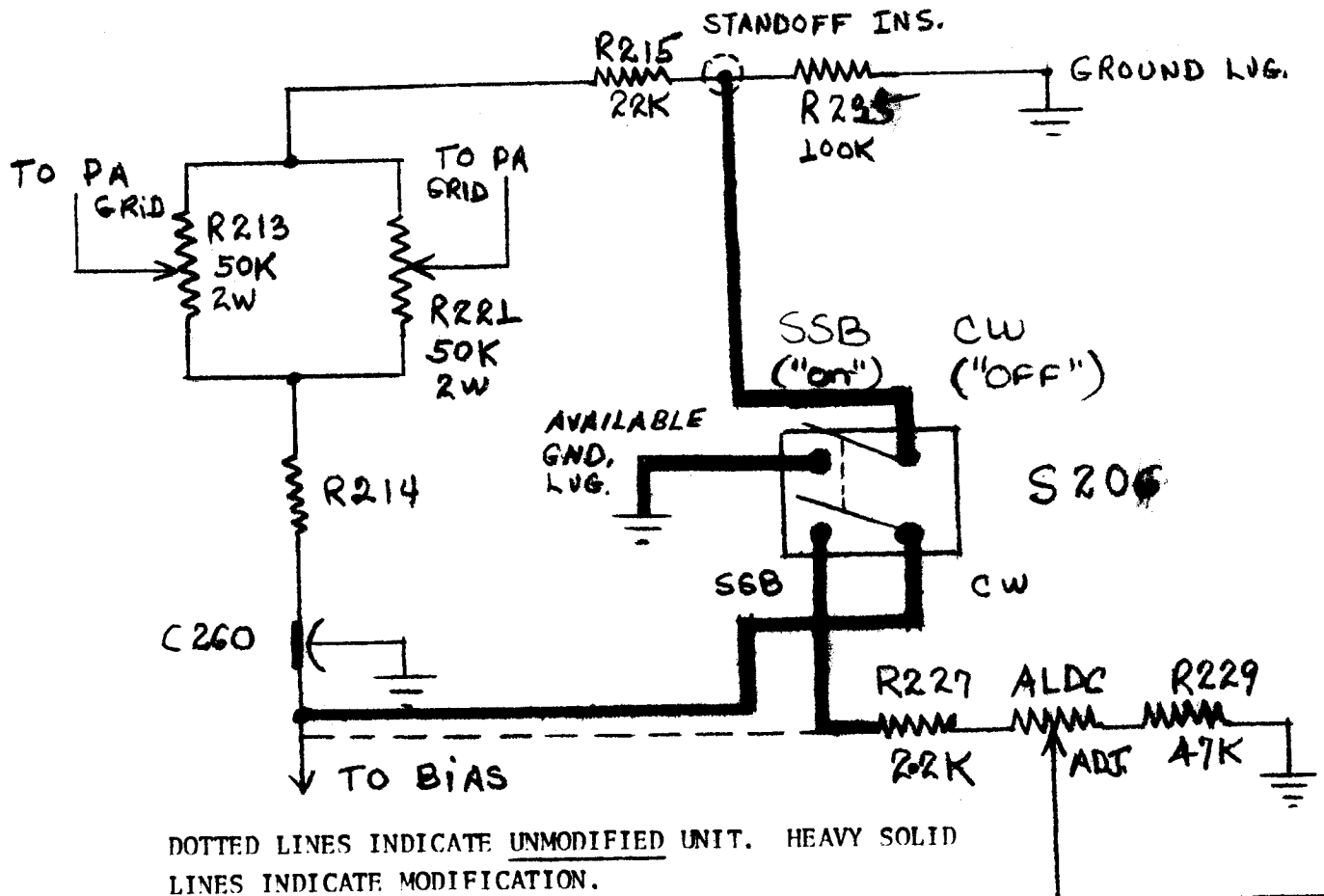


FIGURE #2

# TMC SPECIFICATION

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TITLE:

MODIFICATION KIT-232-A FOR RFA-1 A POWER AMPLIFIER (PART-2)

9. Remove the Lead from C-260 which connects to R-227 (Determine which of the two wires is correct with an OHMETER), and splice and solder together with 5" piece of YELLOW/ WHITE lead. Slide over connection 2" piece of ~~BLACK~~ Spaghetti.
  10. Connect other END of wire to DPST switch which has NO wire on it next to XF-201.
  11. Connect the 6" Yellow/W Lead between remaining DPST switch contact and C-260.
  12. Change CR-204 and CR-205 from 1N67 to 1N645A. (Item #3).
  13. Replace 13K ohm R223 with new 22K ohm. (Item 13).
  14. Attach new top and bottom covers, and driver chassis cover (Items 11,12, 14).
- E. OPERATIONAL CHECK:
1. After Re-assembling unit turn on H.V. after sufficient warm-up time.
  2. With switch S-206 in "CW" position plate current meter M-201 should indicate ~~10~~ MILS" PA current.
  3. Switch S-204 to SSB and normal 160 MA of plate current should be indicated.
  4. With switch in CW position "ALDC ADJ." should have no affect. Load PAL-350 up to 300 MA and VARY "ALDC ADJ.". There should be no difference in PA Current.
  5. Make this same test with switch in SSB position. ALDC should function normally.
  6. In SSB mode multi meter SW S203-A-B in "DR" position will indicate full scale under drive conditions.
  7. In "CW" operation upon completion of "DR" tuning, place meter selector switch to ISG position. Full output should not exceed 300 watts key down.
  8. This completes Modification of PAL-350-A.
  9. Attach Modification nameplate, Item 9, to front panel of RFA-1B under nameplate.

# REVISION SHEET

THE TECHNICAL MATERIAL CORP.  
MAMARONECK NEW YORK

S-948

LIST NO.

DATE	REV.	SHEET	EMN #	DESCRIPTION	APP.
4/23/65		1 of 4		O=ORIGINAL RELEASE FOR PRODUCTION.	
5/13/65	O	2	14083	PER EMN	<i>LV</i>
5/19/65	A	2,3,4	14103	Revised shts 3,2,4 per EMN.	<i>LV</i>
6/9/65	B	—	14234	Revised shts 3,part 1 and shts 2,3,4, part 2 as per EMN	<i>LV</i>
8/10/65	C	2,4	14623	Revised per EMN	<i>LV</i>
3/31/66	D	2,4	16042	Revised per EMN	<i>LV</i>