



# RCA SERVICE COMPANY, Inc.

A Radio Corporation of America Subsidiary

CAMDEN • NEW JERSEY

MI-9358  
MI-9392  
PG-230/A  
Series

CLASSIFICATION: Technical - Photophone - Amplifiers

DATE: July 15, 1949

SUBJECT: MI-9358/A/B Power Amplifier

NUMBER: 203-23.03

## SPECIFICATIONS

PAGE 1 OF 6

**MI-9358:** This 30 watt amplifier is of the rack mounting type, first used with the PG-230 series theatre motion picture sound systems.

**MI-9358-A:** Same as the MI-9358 except 7.5 and 15 ohm taps have been added to the output terminal board.

**MI-9358-B:** Same as the MI-9358-A except designed for 25 cycle 115 volt power supply.

### POWER SUPPLY:

LINE VOLTAGE - (MI-9358/A) 105-125 volts AC, 50-60 cycles.

POWER TRANSFORMER - Taps at 105, 115, 125 volts.

POWER CONSUMPTION at 115 volts, 60 cycle AC: 175 watts at rated power output with 400 c.p.s. input signal and including pre-amplifier load.

### POWER SUPPLIED TO EXTERNAL DEVICES:

- (a) 6.4V., 1.2A. to pre-amplifier heaters (MI-9333)
- (b) 255V., 4.2 MA + B to pre-amplifier
- (c) 255V., 20 MA + B to pre-amplifier regulator circuit.

**FEEDBACK:** 16.9 db at 1000 c.p.s. (difference in gain with and without feedback connected.)

**FUSE:** 3 amp. Buss type line fuse.

### INPUT:

SOURCE IMPEDANCE - 500 Ohms.

INPUT IMPEDANCE - 555 Ohms at 400 c.p.s.

NORMAL INPUT - 8.9db for 30 watts output. (.006 watts reference level)

### OUTPUT:

LOAD IMPEDANCE - MI-9358 500 and 250 ohms. MI-9358-A/B 500, 250, 15 and 7.5 Ohms.

RATED POWER OUTPUT - 30 watts with 2% max. distortion from 50 to 5,000 c.p.s.

MAXIMUM POWER OUTPUT - 115 volt AC line, 48 watts with 400 c.p.s. input signal.

**GAIN:** (at 1000 c.p.s.) 115 volt AC line, 500 ohms source to 250 ohm load, 45.5 db.

**NOISE LEVEL:** (Input terminated with 500 ohms, line voltage 115, amplifiers at full gain) - 54 db.



MI-9358 FRONT VIEW

FHM71549B



MI-9358 OPEN FOR INSPECTION

PRINTED IN U.S.A.

SPECIFICATIONS (continued)

METER: Tube checking, DC meter with seven position switch mounted on front panel.

OVER-ALL DIMENSIONS: Width 19", Height 10-1/2" Depth in front of panel 4-1/2", behind panel 6-7/8".

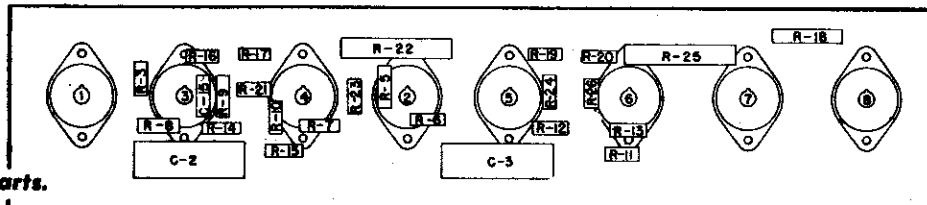
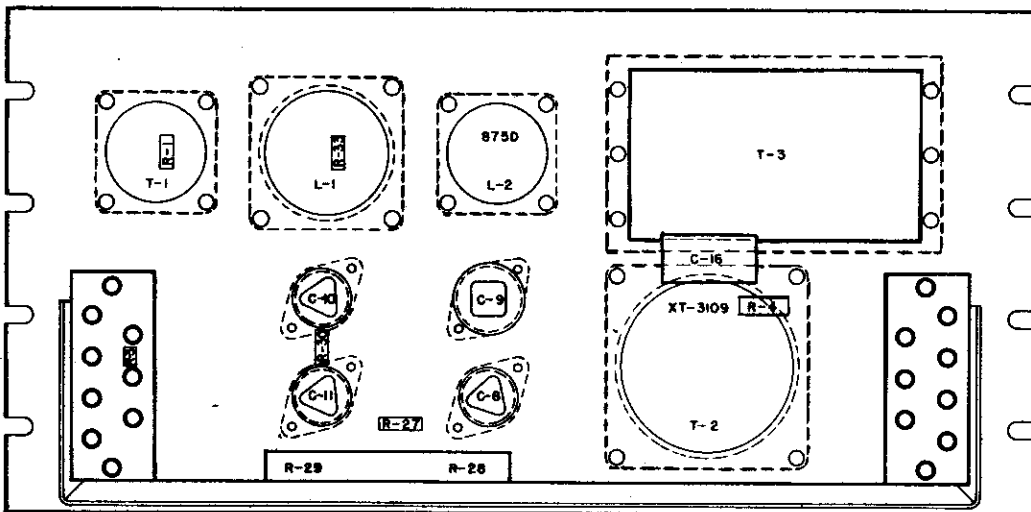
TUBE COMPLEMENT:

- 1-RCA-1620 (Driver)
- 1-RCA-1620 (Phase Inverter)
- 4-RCA-1622 (Output)
- 2-RCA-5U4G (Rectifier)

WEIGHT: (net) 43 lbs.

TUBE SOCKET VOLTAGES

TUBE	PLATE CURRENT	PLATE TO CATHODE (or Filament)	CATHODE TO GROUND	HEATER	SCREEN TO CATHODE
V1-1620	1.4 MA	104 V.	3.8 V.	6.2 V. AC	
V2-1620	1.4 MA	104 V.	3.8 V.	6.2 V. AC	
V3-V4 V5-V6 1622	50 MA	300 V.	18.4 V.	6.2 V. AC	255 V.
V7-V8 5U4-G		Plate to Gnd. 300 V. AC		4.9 V. AC	
115 V. AC Line		115 V. Transformer Tap		Measured with VoltOhmyst	



P-173072-0

TUBE TEST:

A meter and a switch mounted on the front of the amplifier panel are used to test the power amplifier (MI-9358) and pre-amplifier (MI-9333) tubes. Six positions on the switch are numbered. The numbers marked on the sockets in drawing above indicate the power amplifier tubes which are tested with the switch in the numbered position. The extreme clockwise position of the switch

is marked VA, which indicates that the pre-amplifier tubes are under test with the switch in the later position.

Positions number 1 and 2 of the switch are used to test the 1620 type tubes in the power amplifier. Positions 3, 4, 5 and 6 are each used to test the 1622 type tubes in the power amplifier. The position VA is used to test both of the

1620 tubes in the pre-amplifier.

Test the tubes under no signal conditions, that is with no sound track interrupting the light beam in the soundhead. The meter should indicate between 0.3 and 0.7 volts in any test position. A reading outside these limits indicates that the corresponding tube should be re-

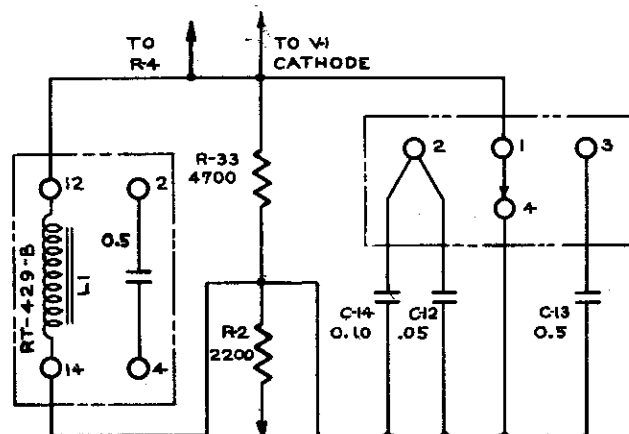
placed. However in position VA the tubes in the pre-amplifier should be removed and tested separately before making final disposition.

If the meter indications are uniformly low, as the switch is turned to each position, replace the 5U4G type rectifier tubes and repeat the test.

**MI-9392 VOICE FREQUENCY FILTER KIT.**

If it is desired to attenuate the voice frequencies at 120 or 240 cycles, a filter kit is available for this purpose. The kit terminal board should be attached to the front panel of the MI-9358 amplifier and the circuit components placed conveniently on the chassis. The filter circuit should be connected in series with the cathode of the first RCA-1620 tube (V-1) of the amplifier. The use of this filter will give a 6db attenuation at 120 cycles when the jumper is connected to terminals 1-3 and 6db attenuation at 240 cycles when jumper is connected to terminals 1-2. See sche-

matic diagram for connections and components. Also response curve and overall schematic in SL-2C8-53.25.



**PARALLELING AMPLIFIERS**

When two MI-9358 amplifiers are used (PG-234/235 series systems) the inputs and outputs of each amplifier are to be paralleled. The high-side input leads to amplifier terminal boards are to be connected to terminals 7 in place of terminals 6, thus placing a 160 ohm re-

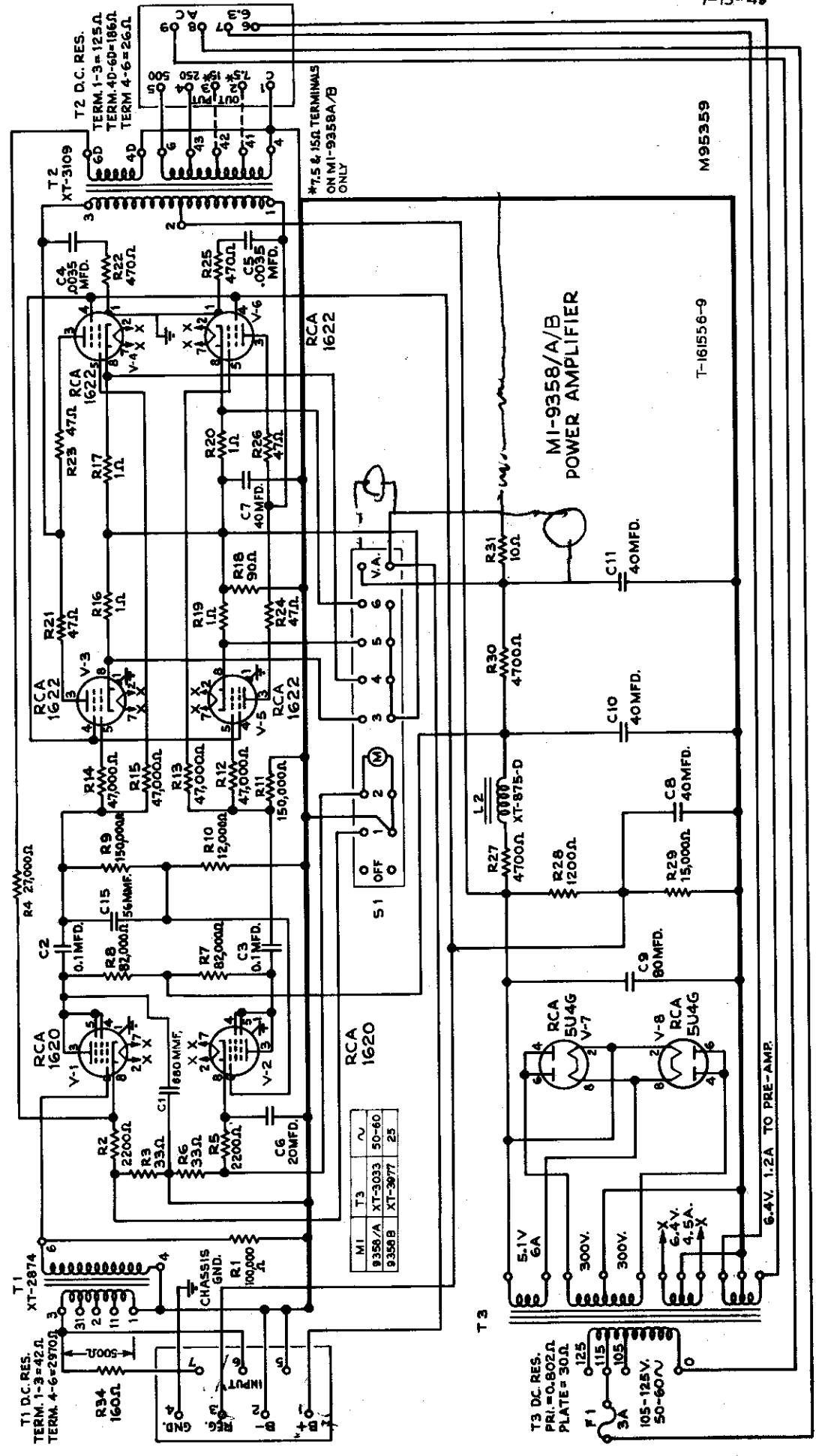
sistor in series with each amplifier input.

The high-side output leads to each amplifier are to be connected to the 500 ohm output terminals in place of the 250 ohm. Other connections are shown in the over-all schematic diagrams of the PG-230 systems, SL-2C8-53.25.

**REPLACEMENT PARTS**

Symbol No.	Description	Stock No.	Symbol No.	Description	Stock No.
<b>MI-9358 AMPLIFIER</b>					
C-1	Capacitor-680 mmf	39648	R-7,8	Resistor-82,000 ohms, 1 w	43020
C-2,3	Capacitor-0.1 mf, 500 v	65635	R-9	Resistor-150,000 ohms, 1/2 w	30493
C-4,5	Capacitor-0.0035 mf, 1,000v	30851	R-10	Resistor-12,000 ohms, 1/2 w	30436
C-6	Capacitor-20 mf, 25 v	34965	R-11	Resistor-150,000 ohms, 1/2 w	30493
C-7	Capacitor-40 mf, 150 v	31584	R-12,13,14,15	Resistor-47,000 ohms, 1/2 w	30787
C-8	Capacitor-40 mf, 450 v	37308	R-16,17	Resistor-1 ohm, 1/2 w	50775
C-9	Capacitor-80 mf, 450 v	18950	R-18	Resistor-90 ohms, 30 w	50651
C-10,11	Capacitor-40 mf, 450 v	37308	R-19,20	Resistor-1 ohm, 1/2 w	50776
C-15	Capacitor-56 mmf, 1,000 v	50399	R-21	Resistor-47 ohms, 1 w	64723
F-1	Fuse	10907	R-22	Resistor-470 ohms, 2 w	19478
L-2	Transformer-XT-875-D	17569	R-23,24	Resistor-47 ohms, 1 w	64723
R-1	Resistor-100,000 ohms, 1/2 w	3252	R-25	Resistor-470 ohms, 2 w	19478
R-2	Resistor-2,200 ohms, 1/2 w	34767	R-26	Resistor-47 ohms, 1 w	64723
R-3	Resistor-33 ohms, 1/2 w	30789	R-27	Resistor-4,700 ohms, 1 w	30788
R-4	Resistor-27,000 ohms, 1/2 w	30409	R-28,29	Resistor-1,200 ohms, 15,000 ohms	50650
R-5	Resistor-2,200 ohms, 1/2 w	34767			
R-6	Resistor-33 ohms, 1/2 w	30789			

REPLACEMENT PARTS (continued)



M95359

MI-9358/A/B  
 POWER AMPLIFIER

T-161556-9

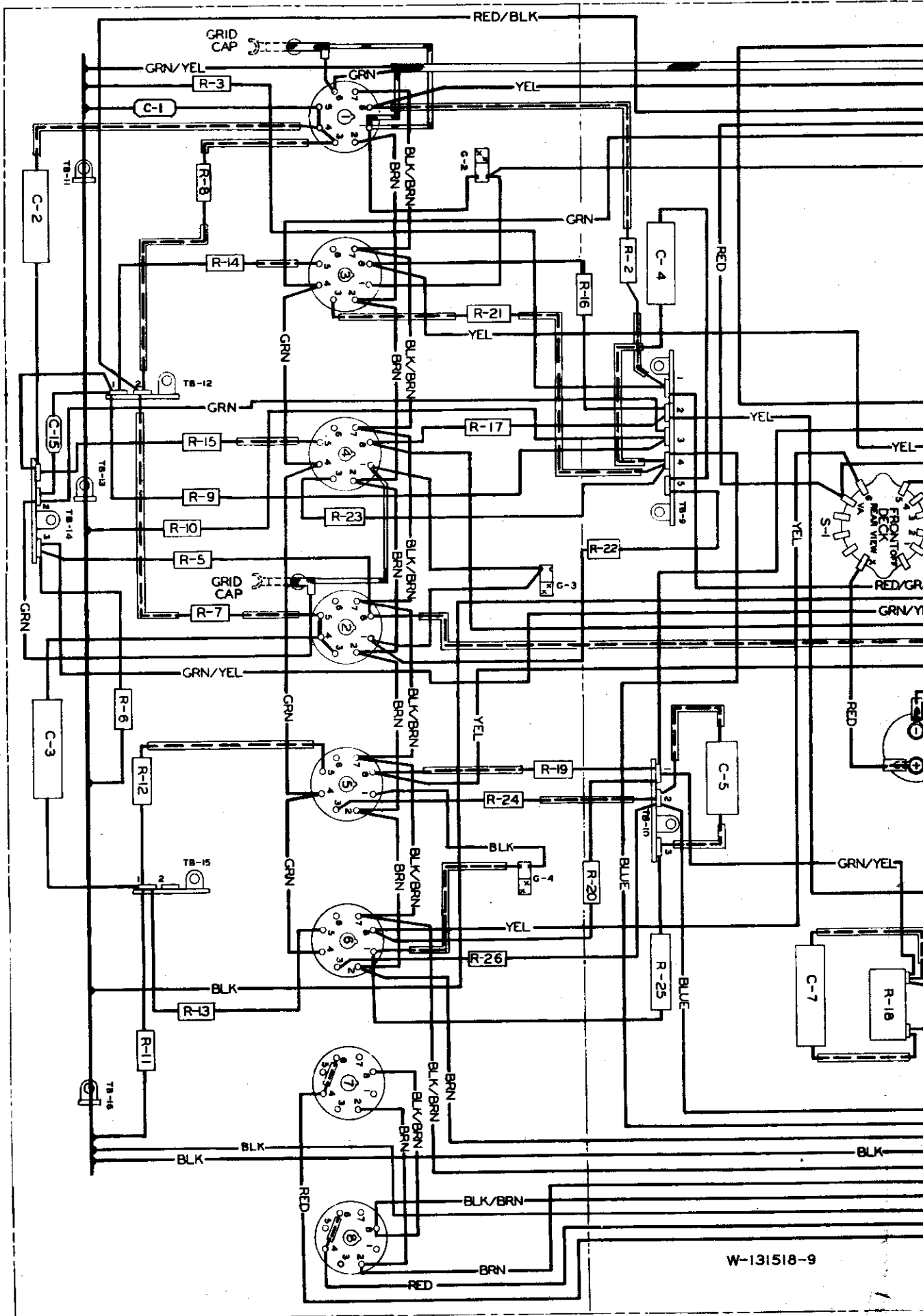
6.4V. 1.2A TO PRE-AMP.

\*7.5 & 15Ω TERMINALS  
 ON MI-9358A/B  
 ONLY

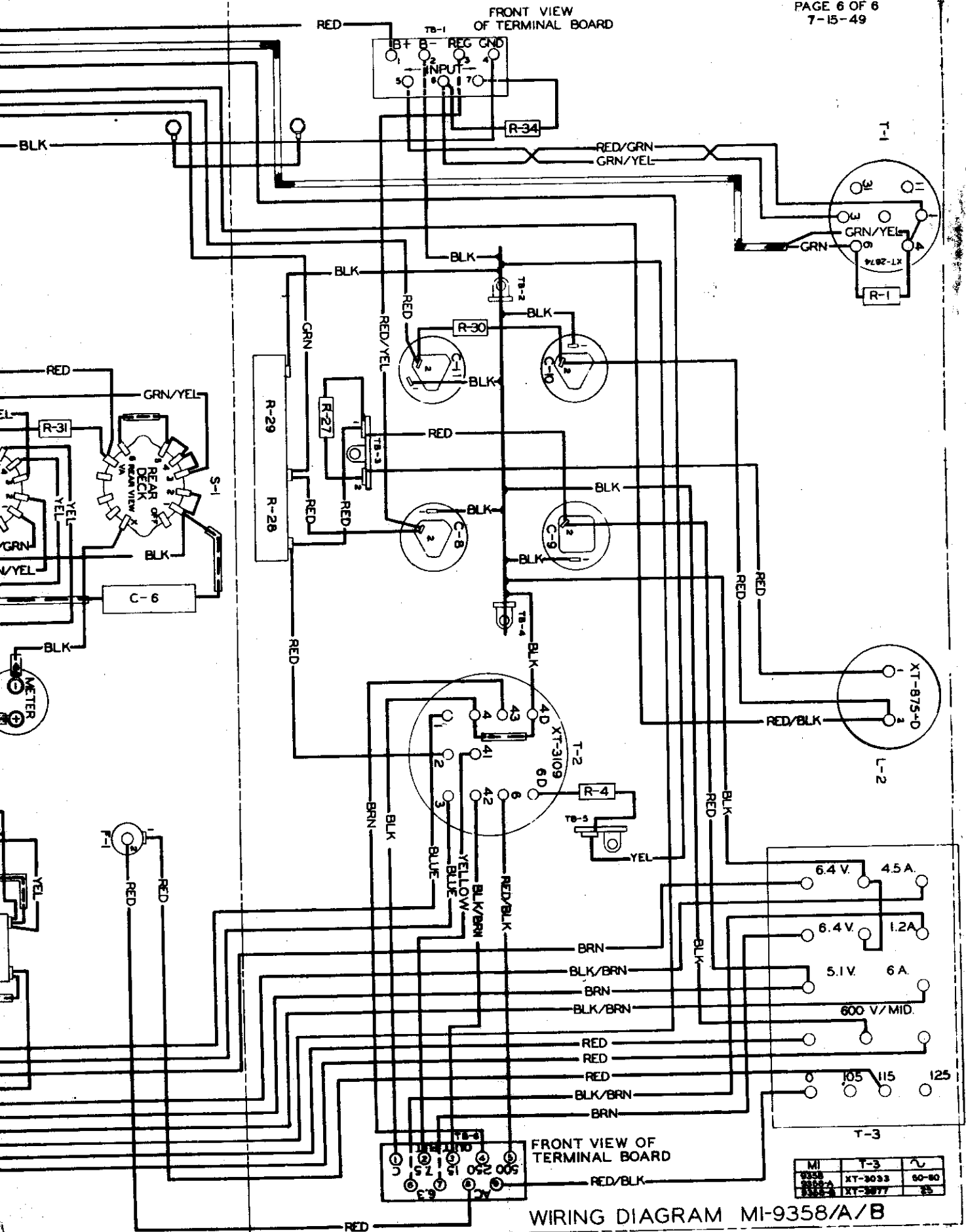
T1 D.C. RES.  
 TERM. 1-3=42Ω  
 TERM. 4-6=2970Ω

T2 D.C. RES.  
 TERM. 1-3=125Ω  
 TERM. 4D-6D=186Ω  
 TERM. 4-6=26Ω

T3 D.C. RES.  
 PRI.=0.802Ω  
 PLATE=30Ω



W-131518-9



MI	T-3	
9358	XT-3033	60-80
9358A	XT-3077	25
9358B		