

DATASPEED TAPE TO TAPE SYSTEM

TYPE 1 AND TYPE 2 TAPE SENDERS AND RECEIVERS

POWER SUPPLY 1A

DESCRIPTION AND WIRING DIAGRAMS

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1. INTRODUCTION

1.01 This section contains information regarding the power supply 1A module used in the DATASPEED 1A and 2A Tape Senders and 1B and 2B Tape Receivers.

1.02 This section is reissued to rearrange text and to include the latest diagram issues. The title has also been changed from "Wiring Diagrams" to "Description and Wiring Diagrams."

1.03 The attached material (Teletype Corporation WD drawings) covers the actual and the schematic wiring arrangements.

2. GENERAL DESCRIPTION

2.01 Identical modular power supplies (177149) provide operating voltages for the electronic circuitry in both the Tape Sender and Tape Receiver. This supply consists of a rectifier mounted in a frame approximately 5" wide, 7" high and 15" deep.

2.02 The supply operates from a 117 v, 60 cps ac primary power source and provides the following continuous dc voltages: -12 v, +1.5 v, +6 v, -6 rv (reference volts), and a "floating" 28 v. For complete electrical data, see Table I.

2.03 A three-pin input power connector and a multiple-pin output connector are mounted on a rear panel. The following components are on a front panel for easy access:

- (1) A voltmeter and a rotary selector switch for selecting the voltages to be measured.
- (2) An ON-OFF POWER switch.
- (3) A convenience AC OUTLET.
- (4) An amber POWER-ON lamp.
- (5) Eight fuses for protecting the ac and dc circuits.
- (6) A signal ground jack.

Five spare fuses and screwdriver adjustments for the -12, +6 and +1.5 voltages are on the top of the module.

3. CIRCUIT DESCRIPTION (See 5531WD)

3.01 Primary 117 v ac power is brought into the unit through three-pin connector J901 on the rear panel. Pins B and C (common) provide the power, and Pin A is grounded to the frame. Three-prong convenience receptacle J900 on the front panel is connected directly to J901.

3.02 ON-OFF, two-pole toggle switch S900 on the front panel makes and breaks both sides of the power source. The power is brought to pins on the output connector to provide an ac supply. Amber POWER-ON indicator lamp DS900 is connected across the source through resistor R912.

3.03 After being fused on both sides (F900 and F901), the power is connected to the primary winding of ferroresonant transformer T900. A ferroresonant secondary winding connected across capacitor C900 maintains constant output voltage in the event of fluctuations

in the input voltage. In addition, the transformer has two secondary windings which supply the various dc voltages. Diodes CR900 through CR907 provide full-wave rectification. C902, C903, C904, C906, C907 and C908 are filter capacitors. R900, R905 and R906 are bleeder resistors. Each supply is protected by a fuse (F900 through F907).

3.04 One of the secondary windings (pin 3 to pin 9) provides power for the -12, +1.5, +6 and two -6 volt supplies. Pin 6 serves as the common side of each of these supplies. The two -6 volt supplies are developed by zener diodes (CR908 and CR909) and current-limiting resistors (R902 and R904) connected across the -12 volt supply. One -6 volt supply is capable of generating high peak currents over a short duration; the other is a reference voltage which provides a reference clamp for external circuitry.

Variable resistors R907, R908 and R909 provide adjustments for the -12, +6 and +1.5 volt supplies respectively.

3.05 The other secondary winding (pin 0 to 12) provides power for a 28-volt supply which "floats" with respect to the other voltages.

3.06 Wafer switch S901 is connected so that any of the supply voltages can be applied to voltmeter M900 on the front panel. Current limiting resistors R910 and R911 act as voltage dividers for the meter.

3.07 Each supply voltage terminates in parallel at four pins of the output connector. The frame ground is also connected to pins on this connector.

3.08 Ground jack J1 on the front panel provides a signal ground connection.

TABLE I

NOMINAL VOLTAGE*	MAX AVG LOAD 1	MAX SURGE LOAD 1	SURGE LOAD 1 MAX TIME DUR	REGULATION**			RIPPLE % RMS
				LOAD ENL-EFL	PRI POWER 105-130V AC	PRI POWER FREQ 58.5-61.5~	
-28V ±5%	4 amp	12 amp	4 Millisec	20%	5%	±5%	2%
-12V ±5%	1.6 amp	—	—	20%	5%	±5%	2%
-6 (5.6-6.2)	.5 amp	1.1 amp	4 Millisec	10%	5%	±5%	2%
-6 (5.6-6.2)	-.5 amp***	—	—	10%	5%	±5%	2%
+1.5	1 amp	—	—	—	5%	±5%	2%
+6	.5 amp	—	—	—	5%	±5%	2%

*With 115V ac, 60~ applied, and rated load.

**Each parameter (load, input volts and frequency) varied separately. Parameters otherwise maintained at 115V ac, 60~ and rated load.

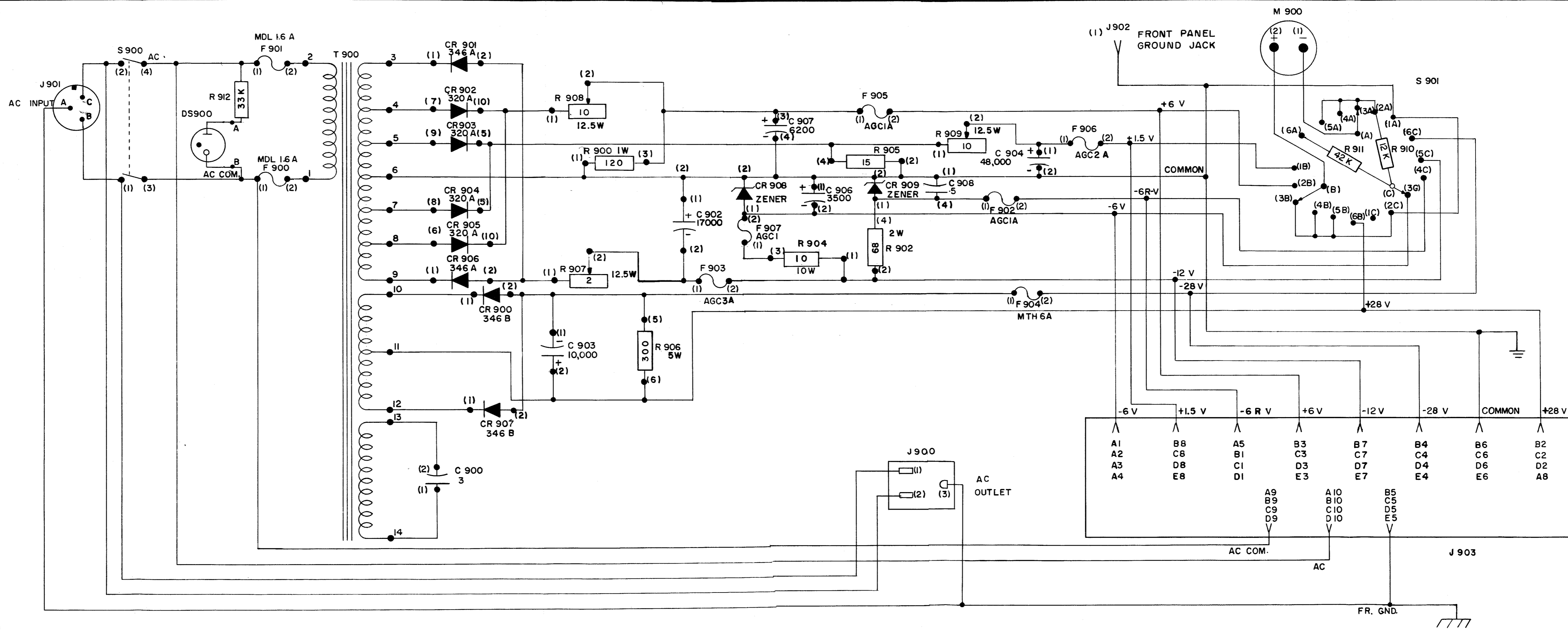
***Load supplied externally to -12V

4. DIAGRAM INDEX

SUBJECT	DRAWING NO.	SECTION ISSUE					
		1	2	3	4	5	6
Multi-Voltage Rectifier (Schematic)	5531WD	A	C				
Multi-Voltage Rectifier (Actual Wiring)	5532WD	A	C				

NO. NOTES

1. REFER TO 5532WD FOR ACTUAL WIRING DIAGRAM.
2. () INDICATES TERMINAL DESIGNATIONS FOR REFERENCE ONLY.
3. ALL RESISTORS 1/2 WATT AND RESISTANCE VALUES IN OHMS, UNLESS OTHERWISE SPECIFIED.
4. ALL CAPACITANCE VALUES IN MICROFARADS, UNLESS OTHERWISE SPECIFIED.



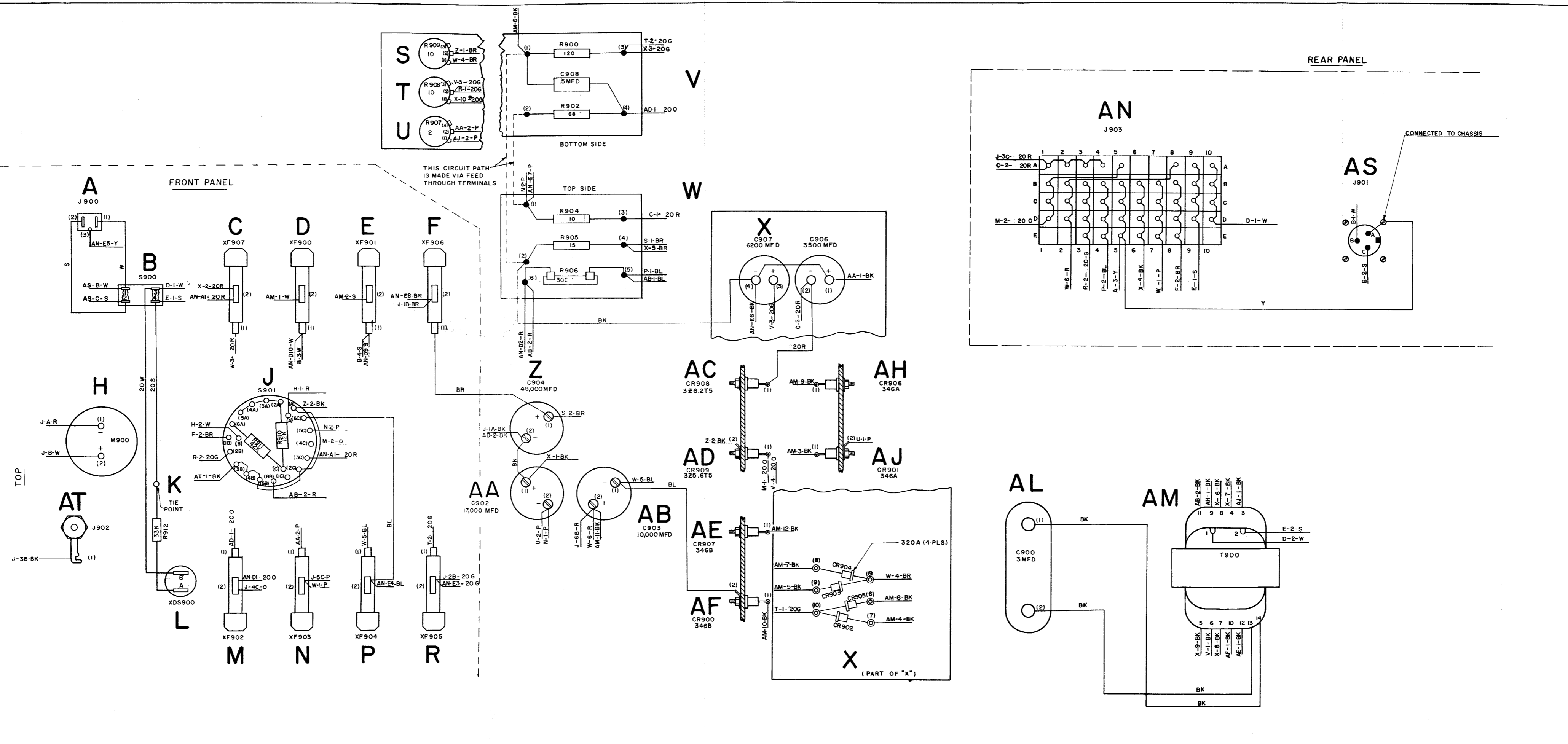
5531 WD		
REVISIONS		
ISSUE	DATE	AUTH. NO.
A	10-9-61	71195
B	4-9-63	76572
C	6-3-63	77672

SPECIFICATION 9547S

SCHMATIC WIRING DIAGRAM FOR MULTI-VOLTAGE RECTIFIER 2 M.V.P.S. 2 ASSEMBLY NO. 177149

D AND R	E OF M
E - NUMBER	
PROD. NO. 5531 WD	
DATE: 7-3-61	
P. D. FILE NO. 24-APS/34AA	
DRAWN: AHP CHKD: [Signature]	
ENGD: EWS APPD: [Signature]	
TELETYPE CORPORATION	
5531 WD	

- NO NOTES
1. WIRING LEGEND:
 DISTANT TERMINATING AREA
 DISTANT TERMINATING DESIGNATION
 WIRE COLOR CODE
 AM-2-S
 2. REFER TO 5531WD FOR SCHEMATIC
 3. ALL WIRE 18 GA. UNLESS OTHERWISE SPECIFIED.
 4. CONNECTIONS VIEWED FROM SOLDER TERMINAL SIDE.
 5. USE SLEEVING TO INSULATE WHERE NECESSARY.
 6. () INDICATES TERMINAL DESIGNATIONS FOR REFERENCE ONLY.
- FUSE VALUES:
 XF900 - 1.6 A
 XF901 - 1.6 A
 XF902 - 1.6 A
 XF903 - 3A
 XF904 - 6A
 XF905 - 1A
 XF906 - 2A
 XF907 - 1A
- COLOR CODE
 8. BLACK - BK
 BROWN - BR
 RED - R
 ORANGE - O
 YELLOW - Y
 GREEN - G
 BLUE - BL
 WHITE - W
 SLATE - S
 PURPLE - P



ACTUAL WIRING DIAGRAM FOR MULTI-VOLTAGE RECTIFIER M.V.P.S. 2 ASSEMBLY NO. 177149

APPROVALS
 DATE: 8-26-61
 P.D. FILE NO. 24-22575-428
 DRAWN BY: [Signature]
 ENGR: [Signature]
 TELETYPE CORPORATION
 5532 WD