"DATASPEED"
POWER SUPPLY 1A
WIRING DRAWINGS

1. INTRODUCTION

1.01 This section contains information on DATA-SPEED Power Supply 1A (TP177149).

1.02 The attached material (Teletype Corporation WD drawings) covers the actual and the schematic wiring arrangements for the DATA-SPEED Power Supply 1A.

1.03 For wiring information concerning other component units used with the DATA-SPEED Power Supply 1A refer to the appropriate Bell System Practice in the 592 Division of the Plant Series.

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 v., −6 r. v. (reverse 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.

* This section replaces Section 592-210-402, Issue 1.

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 reverse 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 J-1 on the front panel provides a signal ground connection.

TABLE I

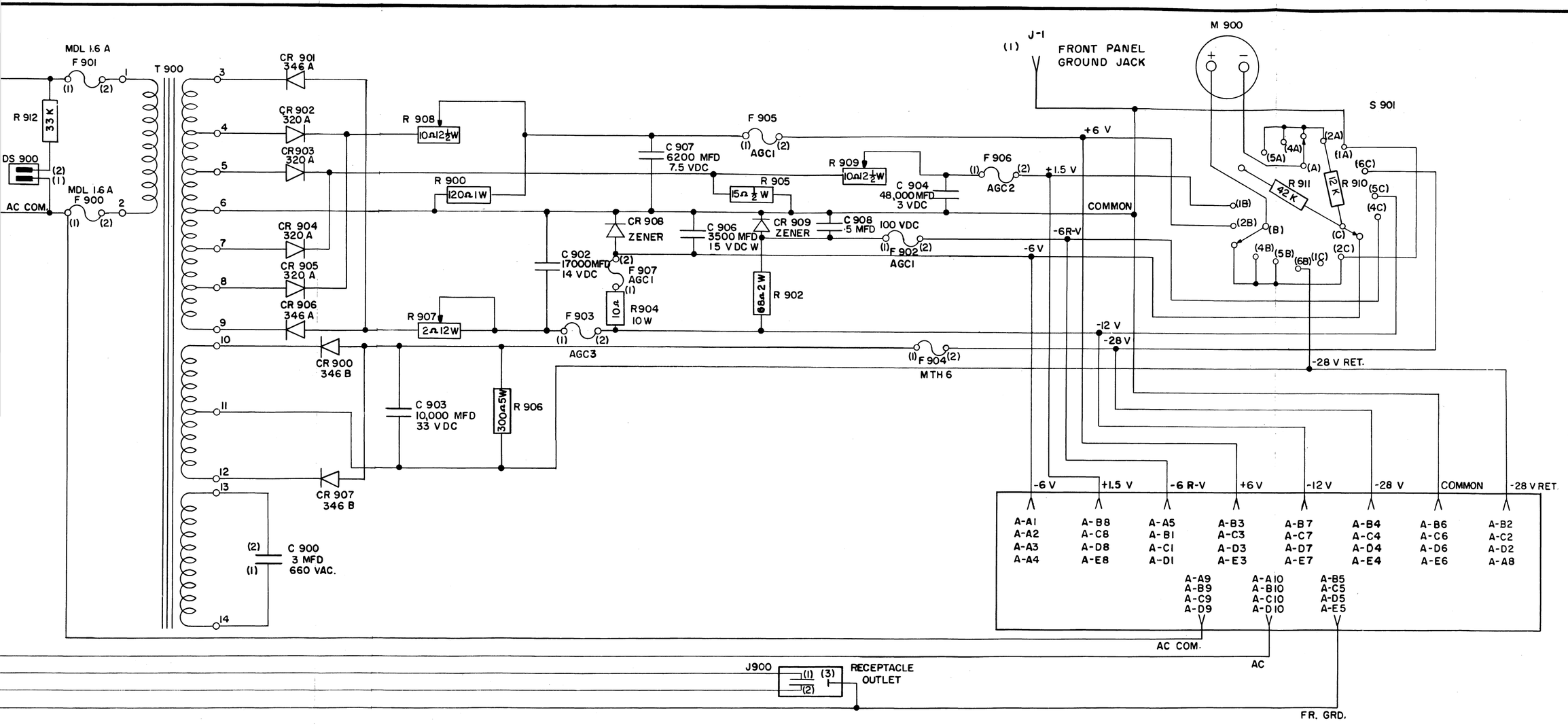
NOMINAL VOLTAGE*	MAX. AVG. LOAD I	MAX. SURGE LOAD I	SURGE LOAD I MAX. TIME DUR.	REGULATION**			RIPPLE % RMS
				LOAD ENL—EFL	PRI. POWER 105-130V AC	PRI. POWER FREQ. 58.5 — 61.5~	
−28V ±5%	4 amp	12 amp	4 Millisec.	20%	5%	±5%	2%
−12V ±5%	1.6 amp	—	—	20%	5%	±5%	2%
−6 (5.6-6.2)	.5 amp	1.1 amp	4 Millisec.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

Attached:
Teletype Corporation
Drawings 5531WD
and 5532WD



5531 WD		
REVISIONS		
ISSUE	DATE	AUTH. NO.
A	10-9-61	71195

SCHEMATIC DIAGRAM
MULTI-VOLTAGE RECTIFIER
MODULE II (177149)

D AND R	E OF M

E-NUMBER

PROD. NO. 5531 WD

DATE: 7-3-61

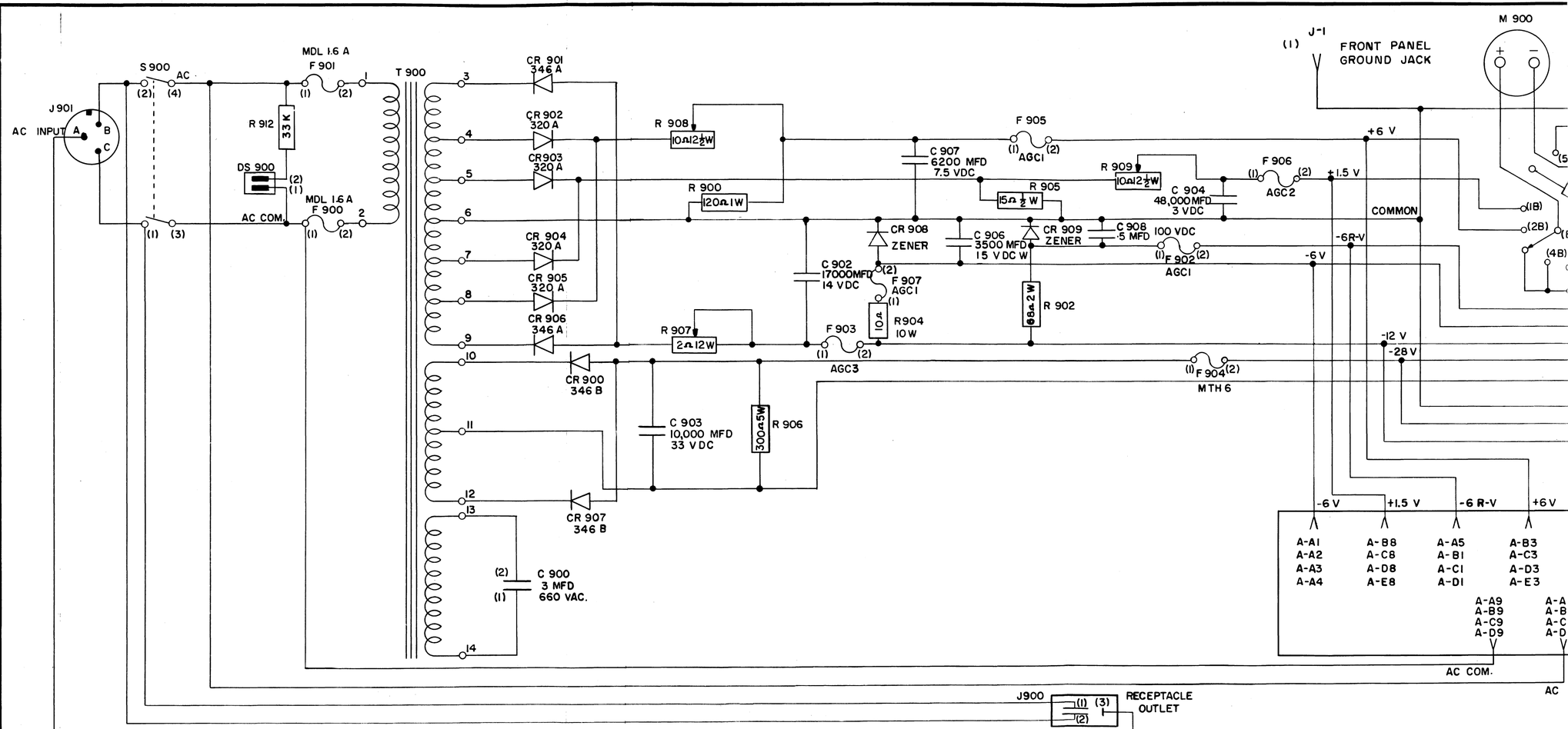
P.D. FILE NO. 24-A25/134AA

DRAWN: AHP	CHKD:
ENGD: EWS	APPD:

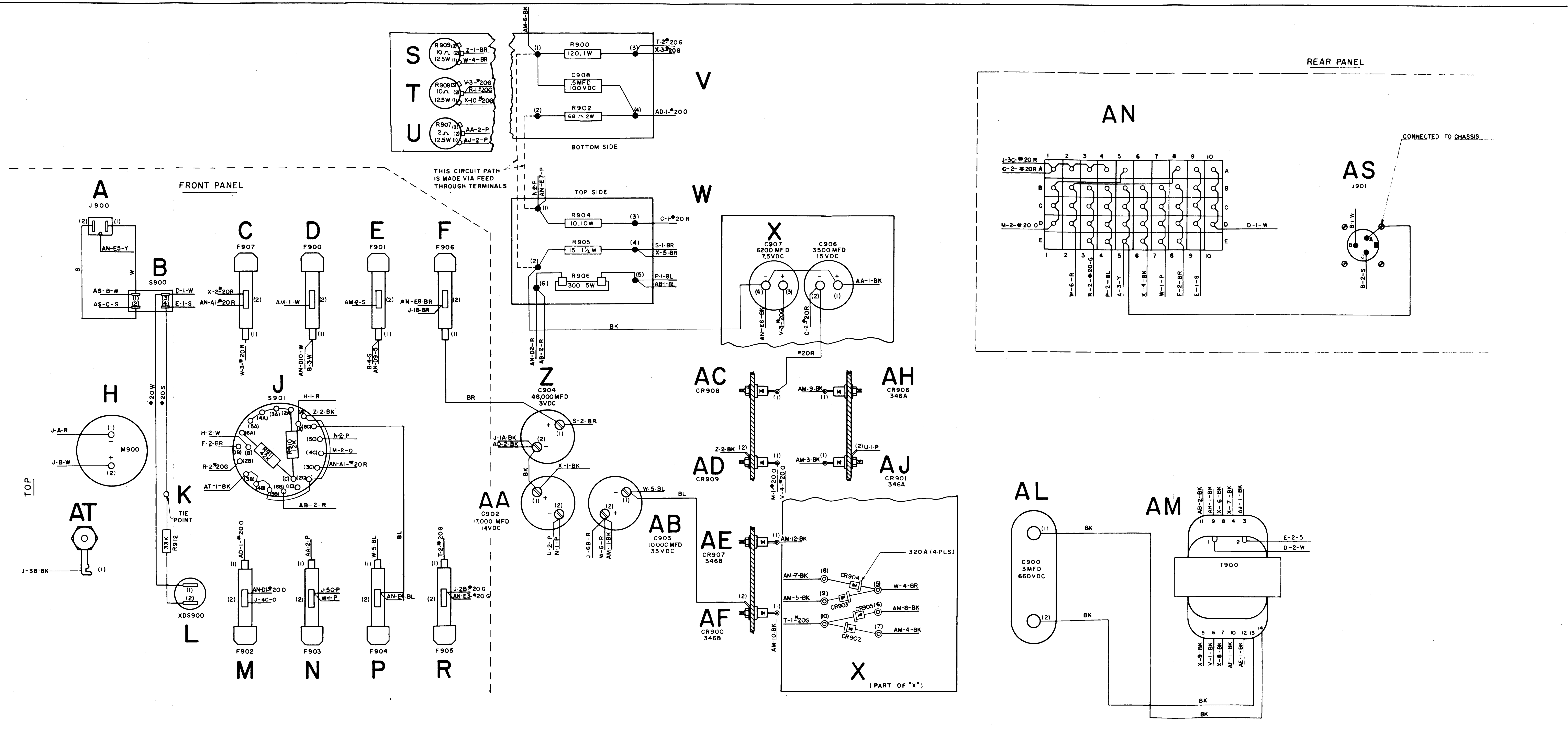
TELETYPE CORPORATION

5531 WD

NO.	NOTES
1	FOR ACTUAL WIRING DIAGRAM REFER TO 5532 WD



NO.	NOTES
1.	FOR SCHEMATIC DIAGRAM REFER TO 5531 WD.
2.	ALL WIRE #18 GA. UNLESS OTHERWISE SPECIFIED.
3.	CONNECTIONS VIEWED FROM SOLDER TERMINAL SIDE.
4.	USE SLEEVING TO INSULATE WHERE NECESSARY



5532WD		
REVISIONS		
ISSUE	DATE	AUTH NO
A	10-9-61	71195

ACTUAL WIRING DIAGRAM FOR MULTI-VOLTAGE RECTIFIER MODULE (177149 ASSEMBLY) FAA BD1S

APPROVALS

C&MR	E OF M

E. NUMBER

PROD NO 5532 WD

DATE 8-26-61

P D FILE NO 24-A25/134N

DRAWN | CHKD

ENGD | APPL

TELETYPE CORPORATION

5532 WD