

NO 7-3
RECTIFIER
20A

10-10-40

GENERAL

This rectifier is of the full wave vacuum tube type, incorporating a vacuum tube voltage regulator. The power transformer of this rectifier also supplies heater current for amplifier vacuum tubes. Provision is made for preventing the plate voltage from rising above its final value during the warm-up period of the voltage regulator tubes. This rectifier was originally used to supply power to the 126A Amplifier and 298A Control Panel as part of the 1126A Program Operated Level Governing Amplifier (POLGA), described on Apparatus Reference Sheet No 1-56.

ELECTRICAL CHARACTERISTICS

- Type - - - - - Full-wave vacuum tube rectifier with filter and automatic voltage regulator.
- Power Required - - - - - 105 to 130 volts 60 cycles, 80 watts. (A 1 or 2 Amp Fustat should be used in the fuse socket, depending upon the load).
- Low Voltage - - - - - Will supply up to 10 amperes at 6.3 volts alternating current.
- High Voltage - - - - - Will supply up to 110 milliamperes at 195 to 275 volts direct current, the voltage depending on the setting of the potentiometer P1.
- Normal Application - - - - - Used as a power supply as part of the 1126A Polga. (See Apparatus Reference Sheet No. 1-56.)

EQUIPMENT CHARACTERISTICS

- Dimensions - - - - - See photograph.
- Weight - - - - - 26 pounds.
- Mounting - - - - - Recessed Panel Type for vertical mounting on standard 19-inch relay rack.
- Chassis Finish - - - - - Aluminum lacquer.
- Mat Finish - - - - - Black Japan Code 20A-3
Aluminum Gray Code 20A-15

VACUUM TUBES

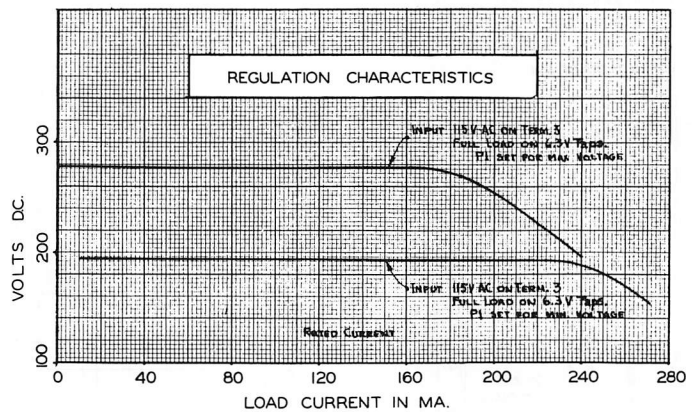
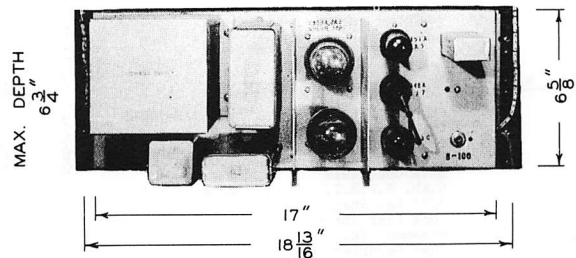
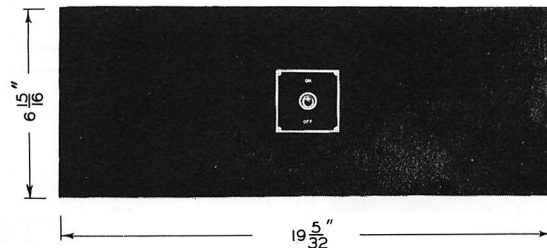
(Must be ordered separately)

- One W.E. 274A or RCA 5Z3
- One W.E. 348A or RCA 6J7-G
- One W.E. 351A or RCA 6X5-C
- One W.E. 313C
- One W.E. 300A or RCA 2A3

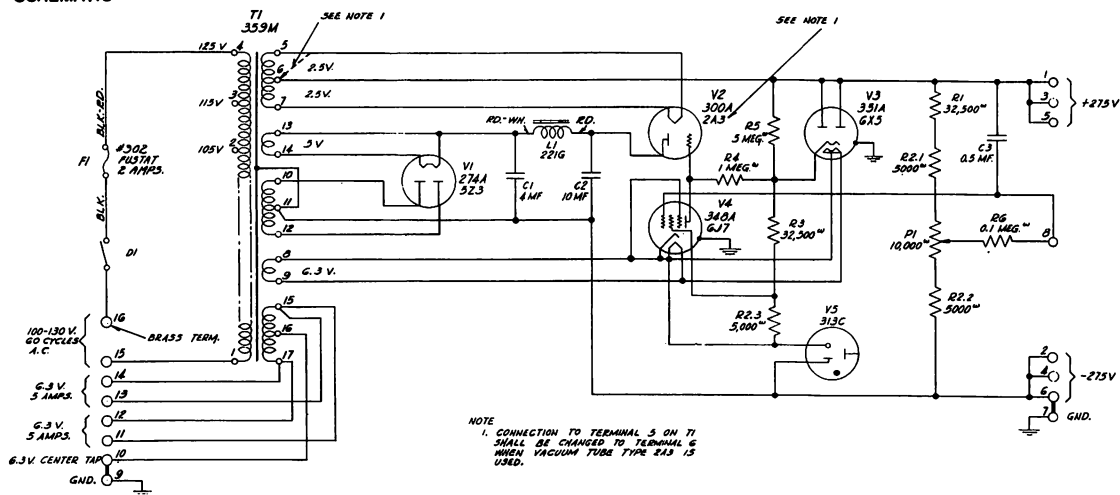
NOTE: If RCA 2A3 is used, make sure its filament voltage is 2.5 volts obtained by connecting Green lead to Terminal 6 instead of Terminal 5 at the 359M power transformer T1.

REFERENCES

- ESR-676675 - - - - - Assembly and Stock List
 - ESD-676676 - - - - - Schematic Diagram
 - ESR-676677 - - - - - Wiring Diagram
 - ESA-676905 - - - - - Testing Information
 - ESL-676680 - - - - - Apparatus List for Customer's Use.
- Photographs No. 91339, 91340



SCHEMATIC

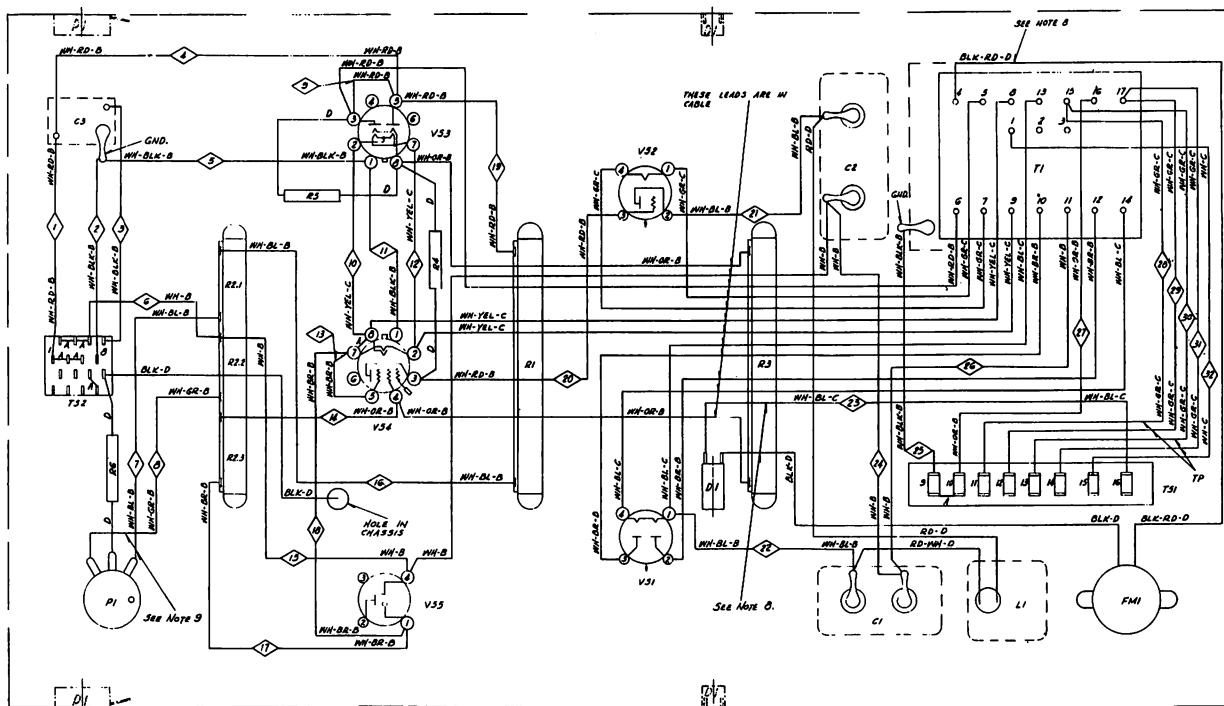


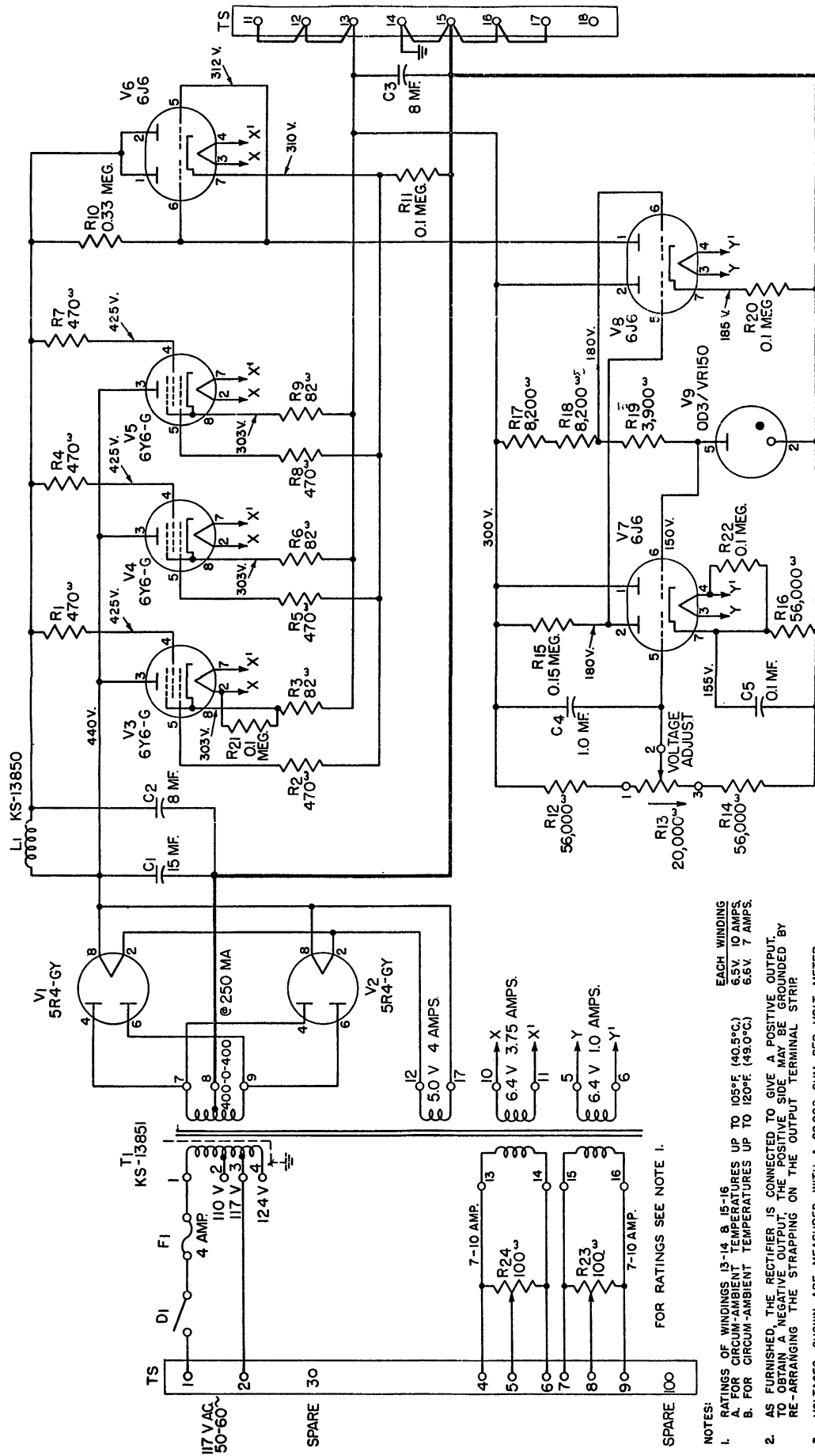
Apparatus List

Desig. No.	Apparatus
C1	Cornell Dubilier Corp. Type TJH-10040 Dykanol Condenser 4 MF, 1000 V.
C2	Cornell Dubilier Corp. Type TJH-10100 Dykanol Condenser 10 MF 1000 V.
C3	227A Condenser 0.5 MF.
D1	H.&H. S.P.S.T. #86992 Toggle Switch, 3/8" Lg. Shank, Silver Plated Contacts, Long Pear Shaped Handle & 2 Hex. Nuts.
F1	Bussman Mfg. Co. St. Louis, Type D-02 Fuse Receptacle with 12" Lg. Leads & 2.0 Amp. Fustat.
L1	221G Retardation Coil.
P1	International Resistance Company Type W Wire Wound Potentiometer 10,000 Ohms \pm 10%. Standard Taper, No Switch and No Taps. Steel Shaft 9/16" Lg. (Dim. "A") with Screwdriver Slot and One Hex. Nut.

Desig. No.	Apparatus
R1, R5	International Resistance Company Type MW5 32,500 Ohms \pm 10%
R2.1, R2.2, R2.3	5 Sections, Sections 1,3,5 each 5000 ohms \pm 10%, Sections 2,4 Infinite.
R4	International Resistance Company Type BT1 1 Megohm \pm 10%
R5	5 Megohms \pm 10%
R6	0.1 Megohm \pm 10%
T1	359M Transformer
TS2	700A Terminal Strip
VS1, VS2	Hammarlund Mfg. Co. Inc. Type BS-4 V.T. Socket & Type BSC Cover.
VS3, VS4	KS-10087 Type 39-P-1-E V.T. Socket
VS5	KS-7741 Type 33-1-A V.T. Socket
	Cinch Mfg. Co. #48135 Plug Button, F52 Finish (For 1-5/32" dia. cable holes).

WIRING DIAGRAM





20C Rectifier

- NOTES:
- RATINGS OF WINDINGS 13-14, 8, 15-16

 - FOR CIRCUM-AMBIENT TEMPERATURES UP TO 105°F (40.5°C) 6.5V 10 AMPS.
 - FOR CIRCUM-AMBIENT TEMPERATURES UP TO 120°F (49.0°C) 6.5V 7 AMPS.
 - AS FURNISHED, THE RECTIFIER IS CONNECTED TO GIVE A POSITIVE OUTPUT. TO OBTAIN A NEGATIVE OUTPUT, THE POSITIVE SIDE MAY BE GROUNDED BY RE-ARRANGING THE STRAPPING ON THE OUTPUT TERMINAL STRIP
 - VOLTAGES SHOWN ARE MEASURED WITH A 20,000 OHM PER VOLT METER FROM THE POINTS SHOWN TO NEGATIVE B.