RECTIFIER J87208
SEMICONDUCTOR TYPE
OPERATING METHODS

1. GENERAL

1.01 This section covers the operation of the J87208 regulated semiconductor-type rectifier. This rectifier is initially intended to provide dc power to the Data Set 401B receiver.

1.02 This rectifier provides well-regulated dc power from 117-volt ac, 60~ power service. The dc output provides two regulated 18-volt, 0.275-ampere outputs.

Caution: Voltages inside the rectifier case are over 300 volts to ground. Avoid all contact with terminals. Do not allow a test pick to touch two metal parts at the same time or destructive and dangerous short circuits may occur. Disconnect ac supply before opening cover to work inside of rectifier except as necessary to make tests.

1.03 Routine checks are intended to detect defects in the equipment, and insofar as possible to guard against circuit failures which interfere with service. Checks other than those required by trouble conditions should be made during a period when they will not interfere with service.

1.04 The instructions are based on drawing SD-81509-01. For detailed description of the operation, see the corresponding circuit description.

1.05 For more detailed information on the operation and maintenance of individual equipment or apparatus, refer to the appropriate Bell System Practice.

2. TOOLS AND TEST APPARATUS

CODE OR SPEC NO.	DESCRIPTION
TOOL	
—	3-inch C Screwdriver
TEST APPARATUS	
KS-14510, L1	Volt-Ohm-Milliammeter

3. OPERATION

Preparing to Start Initially

3.01 When preparing to put the rectifier into service initially, check that:

(a) The proper size fuses are provided in the ac line.

(b) All external connections are made in accordance with the SD drawing covering the associated circuit of which the rectifier is a part.

Initial Adjustments

3.02 The rectifier has no disconnecting switches and is connected to the ac power by a twist lock connector and to the associated components by three solder-type terminals. There are no adjustments.

4. ROUTINE CHECKS

4.01 Electrolytic capacitors should be maintained in accordance with Section A438.961.

5. TROUBLES

5.01 In general, the components most likely to become defective with use are the electrolytic capacitors and the resonating capacitors.

5.02 To avoid unbalance in the rectifying element, diode replacement should be made as follows.

(a) When replacing a defective diode or diodes, all other diodes in this rectifying element should also be replaced.

Trouble Chart

5.03 Should any of the following troubles develop, it is suggested that the possible causes listed be checked. If the trouble is not found, look for loose or open connections or short circuits due to foreign matter lying across wiring terminals.

Caution: The ac voltage across the terminals of the C1 capacitor exceed 300 volts. When making tests inside the unit, take care to avoid any contacts with the leads or terminals of this capacitor.

TROUBLE	POSSIBLE CAUSE
(a) No output voltage	Failure or disconnection of the input power.
	Blown ac supply fuse.
	Defective T1 transformer.
	Shorted capacitors or resistors.
(b) Low output voltage	Low input power voltage.
	Excessive load on rectifier.
	Breakdown of any or all capacitors.
	Defective T1 transformer
	Defective rectifying element.
(c) High output voltage	High input power voltage.
	Defective T1 transformer.
	Shorted R1 or R2 resistor.
(d) High ripple voltage	C2 or C3 capacitor open.
	Defective rectifying element.
(e) Erratic output voltage	Fluctuating input power voltage.
	Intermittent open or short in any component.
	Defective connections.