INSTALLATION INSTRUCTIONS

MSC II
POWER SUPPLIES
344A3505P1 AND 344A3506P1

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INTRODUCTION

The Ericsson GE **MSC II** 380 Watt **Redundant Power Supply (RPS)** is enclosed in a standard 19 inch rack, 5-1/4 inches high and 16.75 inches deep (refer to Figure 1). The rack accepts two slide-in RJX400 type power supply modules. Input/Output connectors automatically connect all lines to the power supply modules when they are slid into place and secured.

The ground pins on the Input/Output connectors are lengthened so that these pins connect first upon installation and disconnect last when removing a power supply module.

FRONT PANEL

The front panel of each power supply module contains a + 5V output voltage monitor labeled **5V TEST** with + and - jacks, a + 5 Vdc output adjustment control labeled **5V ADJ**, a bi-color **STATUS** LED and a bi-color **TEMP** LED (refer to Figure 2).

BACK PANEL

The back panel of the **RPS** provides the following: (Refer to Figure 3)

- Each power supply module has a standard IEC three-prong AC connector with self-contained fuses to provide AC line connection. These connectors are labeled **J1** and **J2**.
- Each power supply module has an **ON/OFF** switch. These switches are labeled **POWER NO. 1** and **POWER NO. 2.**
- Twenty (20) terminal output connector **TB1** is used for both supplies.

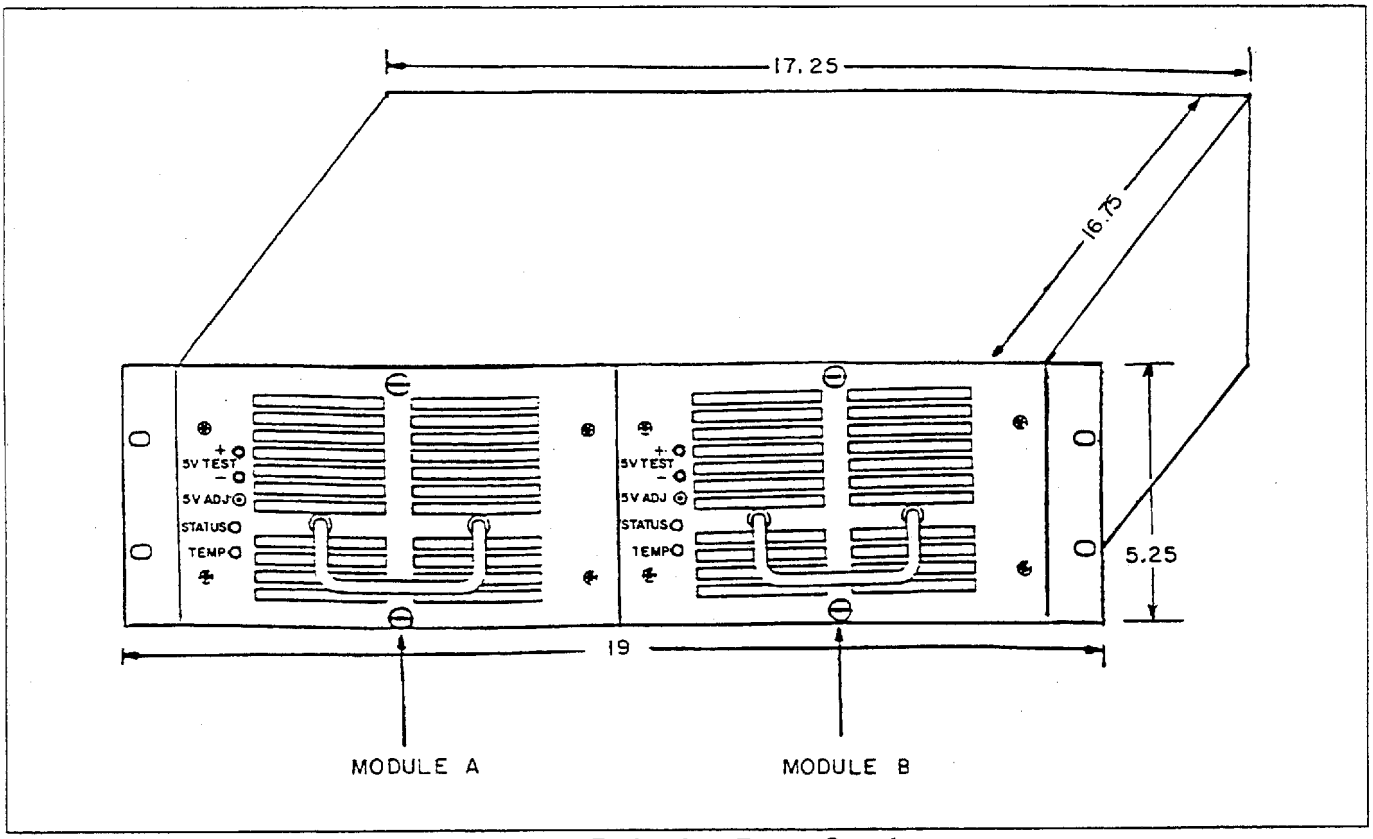


Figure 1 - Redundant Power Supply

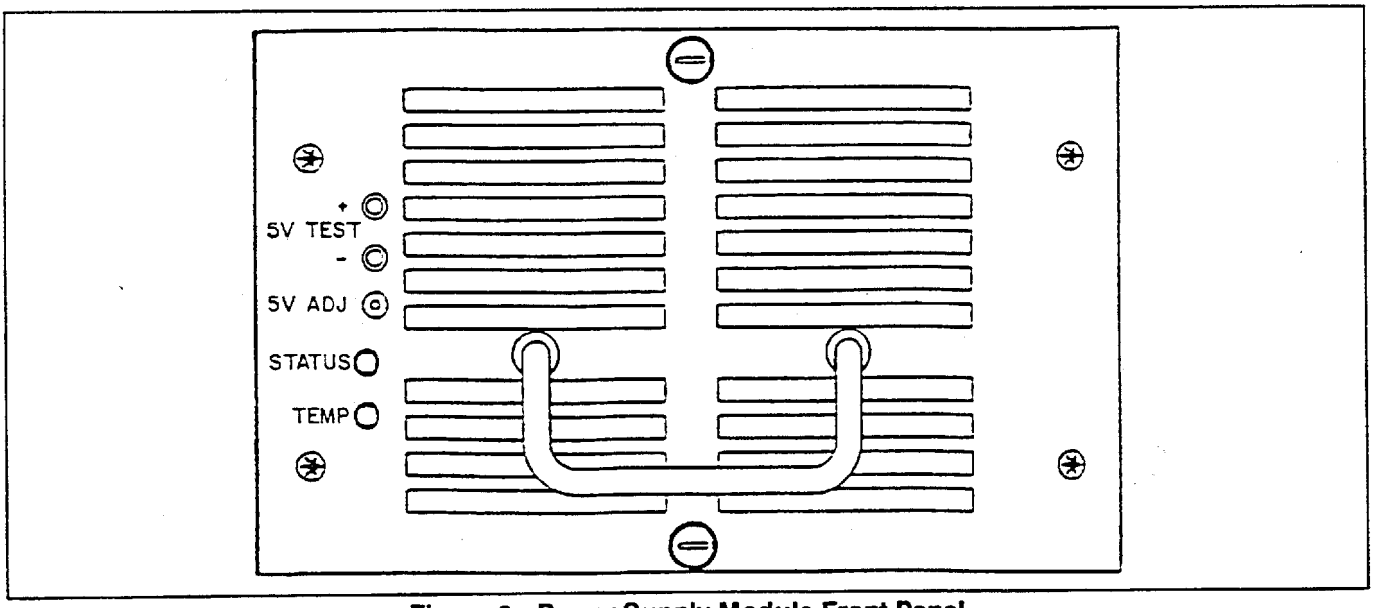


Figure 2 - Power Supply Module Front Panel

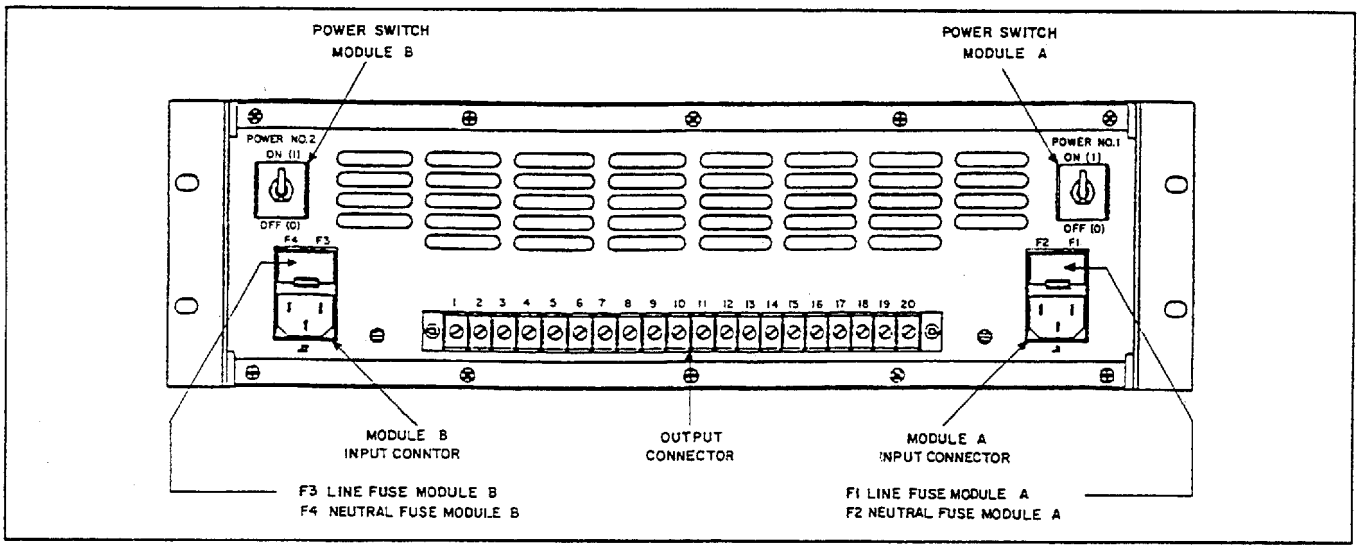


Figure 3 - Power Supply Back Panel

POWER SUPPLY MODULE

Two versions of the RJX400 type power supply modules are available (9 2500 00 681 and 9 2500 00 682). The 681 module is used in the **RPS** 344A3506P1 and the 682 module is used in the **RPS** 344A3505P1. The two versions of modules are identical except as follows:

344A3506P1

TABLE I

Output Voltage	Output Current (max power 380 w)
+5V	4-68 Amperes
+15V	0-8 Amperes
-15V	0-5 Amperes

TABLE II

Output Voltage	Regulation Limits
+5V	4.90V to 5.15V
+15V	14.4 V to 15.6 V
-15V	-14.4 V to -15.6 V

344A3505P1

TABLE III

Output Voltage	Output Current (max power 380 w)
+5V	4-68 Amperes
+12V	0-10 Amperes
-12V	0-5 Amperes

TABLE IV

Output Voltage	Regulation Limits
+5V	4.9V to 5.15V
+12V	11.5V to 12.5 V
-12V	-11.5V to -12.5 V

The RJX400 type power supply module operates from 120 or 220 VAC at 50/60 Hz. Auto switching between voltages only requirement is to change power plug.

Remote Sensing

Remote sensing is provided for the +5V output. A 0.7V cable drip is compensated for.

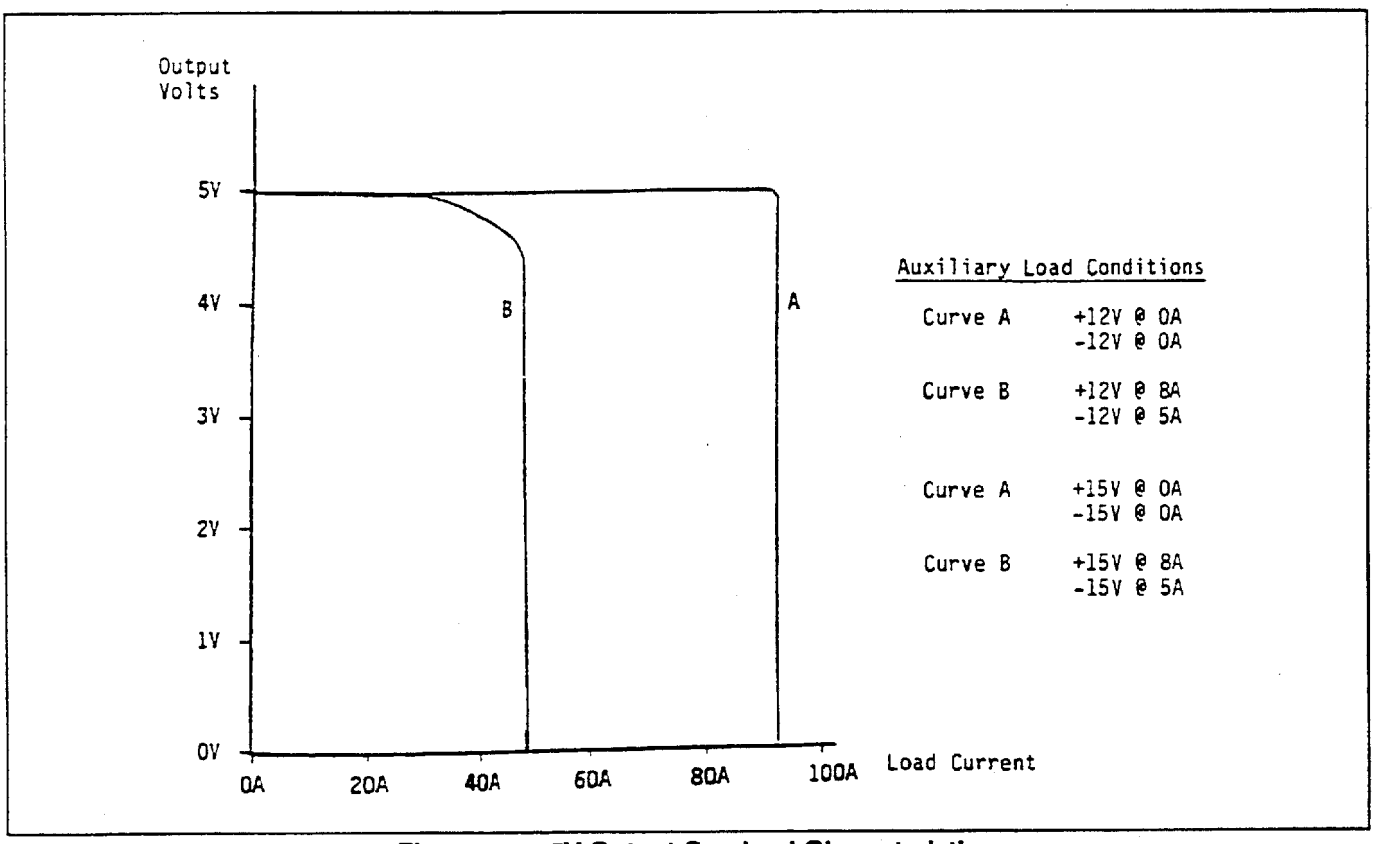


Figure 4 - +5V Output Overload Characteristic

Overload Protection

An overload or short circuit on the +5V or the +15/+12V output will result in either a primary power or a primary current limit. A primary limit results in all outputs phasing back and shutting down (refer Figure 4 for the overload characteristics of the +5V output).

An overload or short circuit on the -15/-12V output results in the -15/-12V folding back. After an overload or short circuit is removed from the outputs, the power supply automatically recovers. All outputs can withstand a continuous short with no damage to the power supply.

Overvoltage Protection

Overvoltage protection is provided for the +5V and +12/+12V outputs. An overvoltage condition results in the power supply shutting down. Recovery is automatic. The +5V overvoltage trip point is 6.5V ±0.75V. The +15 overvoltage trip point is +18.0V ±1.0V. The +12V overvoltage trip point is +15.0 ±1.0V.

Reverse Voltage Protection

All outputs are reverse voltage protected. The maximum reverse voltage will not exceed 1 V.

Thermal Protection

If the power supply module heat sink exceeds 80°C, a thermal shutdown occurs. The power supply automatically recovers when the heat sink temperature returns to within the operating temperature range.

Status Indicators

DC OK Indicators:

A bi-color LED displays **GREEN** when all outputs are above the specified minimum limits. The LED changes to **AMBER** if an output falls below the specified minimum limit.

Thermal Alarm:

A bi-color LED displays **GREEN** when the power supply is operating below the maximum operating temperature. The LED changes to **AMBER** to indicate an impending thermal shutdown. The display indicates a thermal alarm 5°C prior to shutdown. If the power supply module heat sink exceeds 80°C, a thermal shutdown occurs. The power supply automatically recovers when the heat sink temperature returns to within the operating temperature range.

INSTALLATION

INPUT CONNECTIONS

CAUTION

This unit has more than one power cord. To reduce the risk of electrical shock, disconnect both power cords before servicing.

The two power cords supplied with the unit should be connected as follows:

1. Ensure **POWER #1** switch and **POWER #2** switch are in the **OFF** position.
2. Connect a power cord to connector **J1** then to a 120/240 VAC, 50/60 Hz source.
3. Connect a power cord to connector **J2** then to a 120/240 VAC, 50/60 Hz source different from the one connected to **J1**.

CAUTION

Each Power Supply Module should be connected to a different AC circuit as an AC input power source. This is important in that if one AC circuit goes down, the **RPS** will continue to deliver power to the system.

OUTPUT CONNECTIONS

Connection to the loads are made from terminal strip (TP1) located on the rear panel (See Figure 3). Assignments for terminal strip connections are listed in **TABLE V.**

TABLE V

TB1-1 to TB1-6	Output #1 (+5V)
TB1-7 to TB1-12	Return (RTN)
TB1-13	Output #2 (+15/12V)
TB1-14	Output #3 (-15/12V)
TB1-15	Return (±15/12V RTN)
TB1-16	Output #1 Sense (+5V)
TB1-17	Output #1 Sense (-5V)
TB1-18 to TB1-20	No Connection

Sense leads must be connected before turning on PC and a minimum load of 4 amps is required at all times. Output voltage and maximum current rating designates the configuration of output voltages (refer to **TABLE VI**).

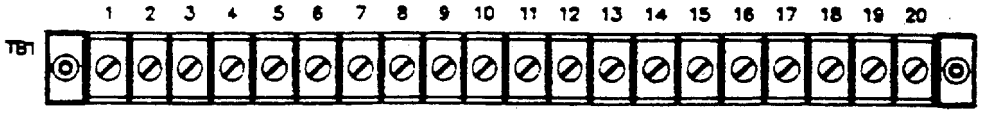
TABLE VI

Output #1	Output #2	Output #3
5V @ 68A	12V @ 10A	±12V @ 5A
5V @ 68A	15V @ 8A	±15V @ 5A
5V @ 68A	12V @ 10A	±12V @ 5A
5V @ 68A	12V @ 10A	±12V @ 5A
5V @ 68A	12V @ 10A	±12V @ 5A
5V @ 68A	15V @ 8A	±15V @ 5A
5V @ 68A	15V @ 8A	±15V @ 5A

NOTE

1. Outputs (DC---) continuous total output power is a maximum of 380 Watts.
2. Maximum DC loads are listed in **TABLE VI.**
3. Minimum DC load for Output is 4 Amps.

Connect **TB1** to suitable loads. Connect the remote sense lines to the +5V load (refer to Figure 5). The load cable drip should not exceed 0.5 Vdc at maximum load.



POWER SUPPLY 344A3505P1

POSITION	FUNCTION
1	+5V
2	+5V
3	+5V
4	+5V
5	+5V
6	+5V
7	RTN
8	RTN
9	RTN
10	RTN
11	RTN
12	RTN
13	+15V
14	-15V
15	±15V RTN
16	+5V SENSE
17	-5V SENSE
18	N/C
19	N/C
20	N/C

POWER SUPPLY 344A3506P1

POSITION	FUNCTION
1	+5V
2	+5V
3	+5V
4	+5V
5	+5V
6	+5V
7	RTN
8	RTN
9	RTN
10	RTN
11	RTN
12	RTN
13	+12V
14	-12V
15	±12V RTN
16	+5V SENSE
17	-5V SENSE
18	N/C
19	N/C
20	N/C

Figure 5 - Output Connector TB1

INPUT OVERCURRENT PROTECTION

CAUTION

Double-Pole/Neutral Fusing

WARNING

For continued protection against risk of fire, replace with fuses of the same type and rating. Use F, 10A, 250V.

F1 and F2 fuse Module A while F3 and F4 fuse Module B (refer to Figure 3 for fuse locations.

SETUP

CALIBRATION

1. Switch **POWER #1** switch to the **ON** position and **POWER #2** switch to the **OFF** position.
2. Apply 120 VAC. Adjust all output loads to nominal per **TABLE I/III**. Verify that both fans are running.
3. Adjust the **+5V ADJ**, located on the front panel, to obtain +5 Vdc ±0.01 Vdc across **TB1** terminals 16 and 17.
4. Adjust **R54** (internal) (RJX400) to obtain +15 Vdc ±0.05 Vdc across **TB1** terminals 13 and 15.
5. Adjust **R53** (internal to supply) (RJX400) to obtain -15 Vdc ±0.05 Vdc across **TB1** terminals 14 and 15.
6. Repeat the preceding procedures with **POWER #1** switch in the **OFF** position and the **POWER #2** switch in the **ON** position.

STATUS BOARD CALIBRATION AND TEST

1. Switch **POWER #1** switch to the **ON** position and **POWER #2** switch to the **OFF** position. Apply 120 VAC.
2. Adjust **R8, R11** and **R13** on the status board fully counterclockwise. Verify that bi-color **STATUS** LED, located on the front panel of the power supply, is **GREEN**.
3. Adjust the **+5V** output to 4.75 Vdc ±0.01 Vdc across TB1 terminals 16 and 17. Adjust **R8** (status board) clockwise until the **STATUS** LED changes to **AMBER**. Re-adjust the +5V output to 5 Vdc ±0.01 Vdc. Verify the **STATUS LED** changes to **GREEN.**
4. Adjust R54 (RJX400) to obtain 14.20 ±0.05V/11.20 ±0.05V across TB1 terminals 13 and 15. Adjust R11 (status board) clockwise until the status LED changes to **AMBER.** Re-adjust the 15V/12 output to 15.0V ±0.05V/12 ±0.05V. Verify the **STATUS** LED changes back to **GREEN.**
5. Adjust R53 (RJX400) to obtain -14.20 ±0.05V/-11.20 ±0.05V across TB1 terminals 14 and 15. Adjust R13 (status board) clockwise until the status LED changes to **AMBER.** Re-adjust the -15V/-12 output to -15V ±0.05V/12V ±0./05V. Verify the **STATUS** LED changes back to **GREEN.**
6. Place a 15.8k ohm resistor across J2-1 and J2-2 (status board). Verify the **TEMP** LED changes to **AMBER** and returns to **GREEN** when the resistor is removed.
7. Repeat steps 2 through 6 with **POWER #1** switch **OFF** and **POWER #2** switch **ON.**

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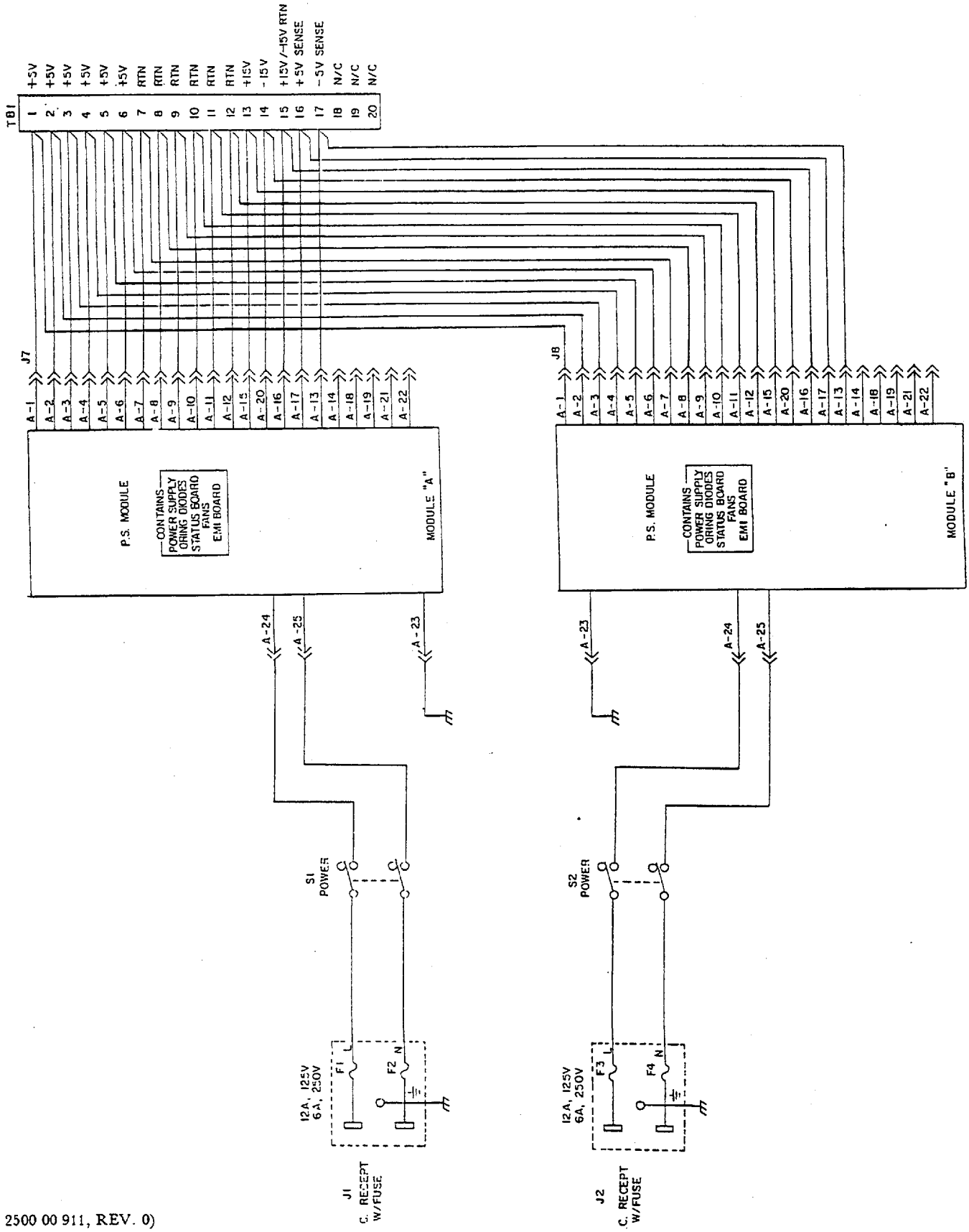

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