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MODEL 2082-1848 DC Power Supply

1.0 General

1.1 Equipment Description

The 2082-1848 DC Power Supply is a DC voltage Power Supply used for SSPB and LNB applications. DC Power is inserted via two L-Band loop-throughs. A +48 VDC, 5A output is provided on the SSPB “RF + DC” output and a +18 VDC, 1A output is provided on the LNB “RF + DC” output. Two front panel locking toggle switches allow the user to disable the DC power insertion on either or both outputs. Each DC power source is fused using rear panel mount fuse holders. Front panel LEDs indicate AC power (green), and front panel LED’s (green) and rear panel LEDs (yellow) indicate the presence of voltage on either RF1 or RF2. Connectors are TNC female for both loop-throughs. The unit is powered by a 100-240 ±10% VAC, 47-63 Hz supply, and housed in a 19.0”, 1RU x 1.75”H x 7.75”D chassis.

![Front and Rear Panels](image_url)
### 1.2 Technical Characteristics

#### TABLE 1.1 2082-1848 DC Power Supply Equipment Specifications*

<table>
<thead>
<tr>
<th>— L-Band Insertion —</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RF Input/Output Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Impedance/Return Loss</td>
<td>50Ω / 10 dB minimum</td>
</tr>
<tr>
<td>Frequency</td>
<td>950 to 2150 MHz</td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>1 ± 0.5 dB (L-Band); 1 dB max. (10 MHz)</td>
</tr>
<tr>
<td>Frequency Response</td>
<td>± 1.0 dB, 950 - 2150 MHz; ± 0.5 dB, 36 MHz BW</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DC Power Characteristics</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage/Current, PS1 / RF1</td>
<td>+48 VDC, 5 A, max.</td>
</tr>
<tr>
<td>Voltage/Current, PS2 / RF2</td>
<td>+18 VDC, 1 A, max.</td>
</tr>
<tr>
<td>(Call for other voltages)</td>
<td>+48 VDC, 8 A, max.</td>
</tr>
<tr>
<td>Load Regulation</td>
<td>± 5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Chassis/Other - Controls, Indicators</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PS1 On/Off</td>
<td>FP SPST Locking Toggle Switch</td>
</tr>
<tr>
<td>PS2 On/Off</td>
<td>FP SPST Locking Toggle Switch</td>
</tr>
<tr>
<td>PS1, PS2, Gnd</td>
<td>FP Test Points (10K Impedance)</td>
</tr>
<tr>
<td>AC Power (PS1 and PS2)</td>
<td>Green LEDs</td>
</tr>
<tr>
<td>VDC on RF1/RF2</td>
<td>RP Yellow LEDs</td>
</tr>
<tr>
<td>VDC on RF1/RF2</td>
<td>FP Green LEDs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Other</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Connectors</td>
<td>TNC, 50 Ω (female)</td>
</tr>
<tr>
<td>(Call for other connectors)</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>19 inch, 1 RU, 1.75” High X 7.75” Deep</td>
</tr>
<tr>
<td>Power</td>
<td>100-240 ±10% VAC, 47-63 Hz., 350W</td>
</tr>
</tbody>
</table>

*10°C to 40°C; Specifications subject to change without notice. 

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2.0 Installation

2.1 Mechanical

The 2082-1848 consists of one RF PCB housed in a 19.0”, 1 RU, X 1.75” high X 7.75” deep chassis. A +48 VDC, 5A output (SSPB) is provided on the “RF1 + DC” output and a +18 VDC, 1A output (LNB) is provided on the “RF2 + DC” output. Two front panel locking toggle switches allow the user to disable the DC power insertion on either or both outputs. The 2082-1848 can be secured to a rack using the 4 holes on the front panel. Figure 2.0 shows how the 2082-1848 is assembled.
2.2 Rear Panel Inputs, Outputs, and Indicators

Figure 2.2 shows the input and output signals and indicators on the rear panel.

![Diagram showing rear panel inputs, outputs, and indicators]

**AC INPUT**
AC power for power supplies 1 and 2.

**COOLING FAN**
Intake fan that provides cooling to the power supplies.

**COOLING FAN**
Intake fan that provides cooling to the power supplies.

**J2 - RF1 LNB, RF+DC**
RF signal (950-2150MHz) with +18 VDC and TNC, 50Ω (Female) and 10MHz ref pass through

**J4 - SSPB**
RF signal (950-2150MHz) with +48 VDC and TNC, 50Ω (Female) 10 MHz ref pass through

**FIGURE 2.2 Rear Panel Outputs**

2.3 Front Panel Controls and Indicators

Figure 2.3 shows the front panel controls and indicators.

![Diagram showing front panel controls and indicators]

**PS1 ON/OFF TOGGLE SWITCH**
FP SPST Locking Toggle switch

**Voltage Test Points**

**PS2 ON/OFF TOGGLE SWITCH**
FP LNB Locking Toggle switch

**SPPB OUTPUT**
+48 VDC, 5A output indicator
RF1 + DC

**LNB OUTPUT**
+18 VDC, 1A output indicator
RF2 + DC

**FIGURE 2.3 Front Panel Controls and Indicators**
2.4 Installation / Operation

2.4.1 Installing and Operating the 2082-1848 DC Power Supply

1. Connect 950-2150 MHz receiver equipment to RF1 OUT, J1 (Fig. 2.2).
2. Connect RF1+DC OUT, J2, to LNB (Fig. 2.2).
3. Connect RF2 +48VDC, J4, to SSPB (Fig. 2.2).
4. Connect J3 RF Input to uplink signal +10 MHz source.
5. Enable FP LNB Power Switch if +18VDC, 1.0A max. is to be inserted on J2 (Fig. 2.2).
6. Enable FP SSPB Power Switch if +48 VDC, 5A max. is to be inserted on J4 (Fig. 2.2).
7. Connect 100-240 ±10% VAC, 47 - 63 Hz to AC connector on the rear panel (Fig. 2.2).
8. Be sure DS3 (PS DC, green) is on (Fig. 2.3).
9. Monitor PS1 and PS2 voltage levels using provided test points (Fig. 2.3).
10. AC Fuses - The fuse is a 5 mm x 20 mm, 5 amp slow-blow (Type T) and is inserted in the far slot in the drawer below the AC input as shown in Figure 2.4. There is a spare fuse in the near slot. If a fuse continues to open, the power supply is most likely defective.
3.0 Environmental Use Information

A. **Rack-Mounting** - To mount this equipment in a rack, please refer to the installation instructions located in the user manual furnished by the manufacturer of your equipment rack.

B. **Mechanical Loading** - Mounting of equipment in a rack should be such that a hazardous condition does not exist due to uneven weight distribution.

C. **Elevated Operating Ambient Temperature** - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack may be greater than room ambient temperature. Therefore, consideration should be given to Tmra.

D. **Reduced Air Flow** - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. Additional space between units may be required.

E. **Circuit Overloading** - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits could have on over current protection and supply wiring. Appropriate consideration of equipment name plate rating should be used when addressing this concern.

F. **Reliable Earthing** - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connection to the Branch (use of power strips).

G. **Top Cover** - There are no serviceable parts inside the product so, the Top Cover should not be removed. If the Top Cover is removed the ground strap and associated screw MUST BE REINSTALLED prior to Top Cover screw replacement. FAILURE TO DO this may cause INGRESS and/or EGRESS emission problems.