

# Instruction Manual

# Model 2082-1848 DC Power Supply

July 2012, Rev. A



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**INSTRUCTION MANUAL**  
**MODEL 2082-1848 DC Power Supply**

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All Cross Technologies, Inc. products are warranted against defective materials and workmanship for a period of one year after shipment to customer. Cross Technologies, Inc.'s obligation under this warranty is limited to repairing or, at Cross Technologies, Inc.'s option, replacing parts, subassemblies, or entire assemblies. Cross Technologies, Inc. shall not be liable for any special, indirect, or consequential damages. This warranty does not cover parts or equipment which have been subject to misuse, negligence, or accident by the customer during use. All shipping costs for warranty repairs will be prepaid by the customer. There are not other warranties, express or implied, except as stated herein.



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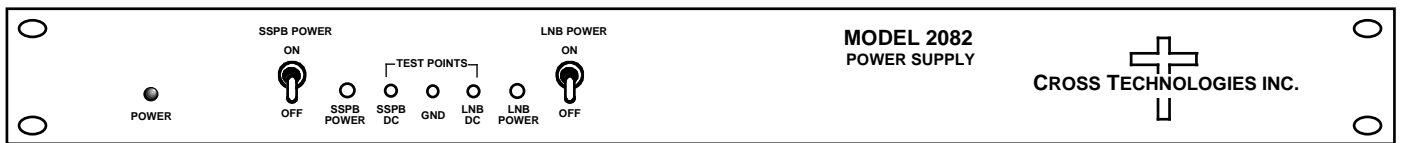
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# MODEL 2082-1848 DC Power Supply

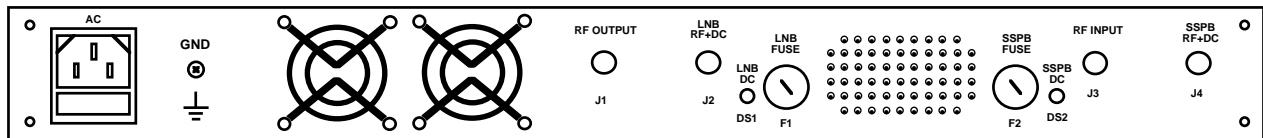
## 1.0 General

### 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  $\pm$ 10% VAC, 47-63 Hz supply, and housed in a 19.0”, 1RU x 1.75”H x 7.75”D chassis.



FRONT PANEL



REAR PANEL

**FIGURE 1.1 Front and Rear Panels**

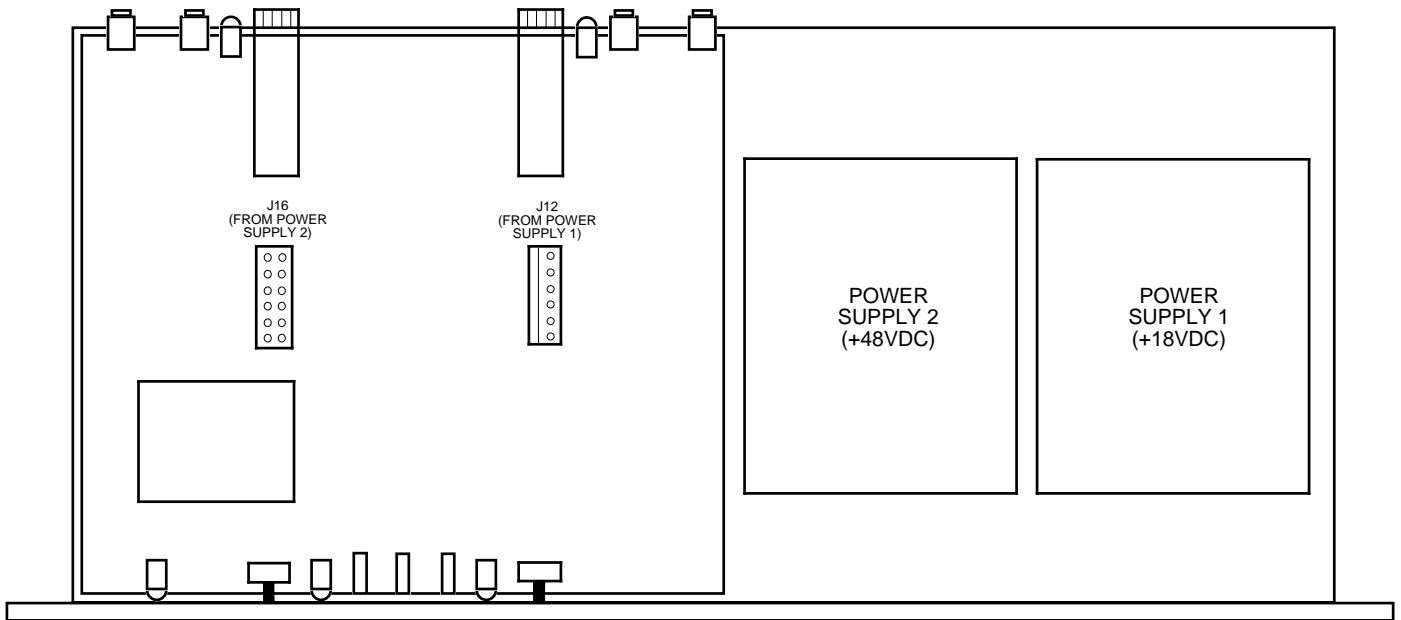
## 1.2 Technical Characteristics

<b>TABLE 1.1 2082-1848 DC Power Supply Equipment Specifications*</b>	
<b>— L-Band Insertion —</b>	
<b>RF Input/Outout Characteristics</b>	
Impedance/Return Loss	50Ω / 10 dB minimum
Frequency	950 to 2150 MHz
Insertion Loss	1 ± 0.5 dB (L-Band); 1 dB max. (10 MHz)
Frequency Response	± 1.0 dB, 950 - 2150 MHz; ± 0.5 dB, 36 MHz BW
<b>DC Power Characteristics</b>	
Voltage/Current, PS1 / RF1	+48 VDC, 5 A, max.
Voltage/Current, PS2 / RF2	+18 VDC, 1 A, max.
(Call for other voltgages)	+48 VDC, 8 A, max.
Load Regulation	± 5%
<b>Chassis/Other - Controls, Indicators</b>	
PS1 On/Off	FP SPST Locking Toggle Switch
PS2 On/Off	FP SPST Locking Toggle Switch
PS1, PS2, Gnd	FP Test Points (10K Impedance)
AC Power (PS1 and PS2)	Green LEDs
VDC on RF1/RF2	RP Yellow LEDs
VDC on RF1/RF2	FP Green LEDs
<b>Other</b>	
RF Connectors	TNC, 50 Ω (female)
(Call for other connectors)	
Size	19 inch, 1 RU, 1.75" High X 7.75" Deep
Power	100-240 ±10% VAC, 47-63 Hz., 350W
*10°C to 40°C; Specifications subject to change without notice.	
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## 2.0 Installation

### 2.1 Mechanical

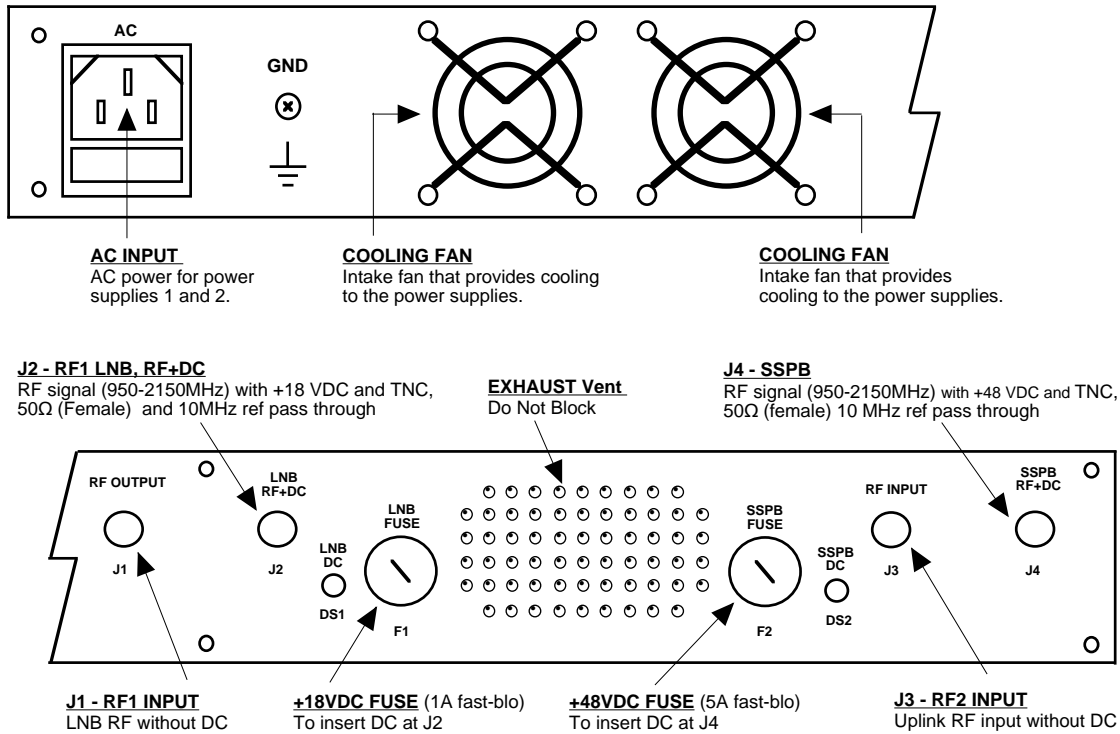
The 2082-1848 consists of one RF PCB housed in a 19.0", 1 RU, X 1.75" high X 7.75" deep chassis. A +48 VDC, 5A output (SSPB) is provided on the "RF1 + DC" output and a +18 VDC, 1A output (LNB) is provided on the "RF2 + DC" output. Two front panel locking toggle switches allow the user to disable the 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.



**FIGURE 2.1 Mechanical Assembly**

## 2.2 Rear Panel Inputs, Outputs, and Indicators

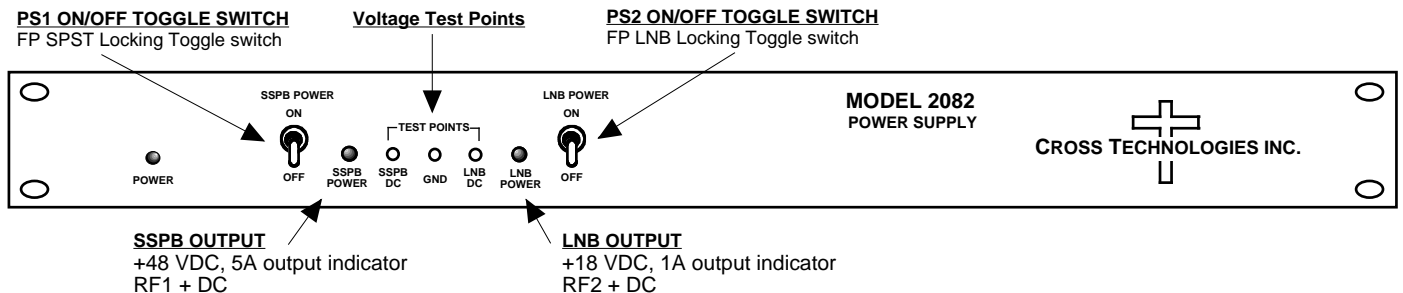
Figure 2.2 shows the input and output signals and indicators on the rear panel.



**FIGURE 2.2 Rear Panel Outputs**

## 2.3 Front Panel Controls and Indicators

Figure 2.3 shows the front panel controls and indicators.

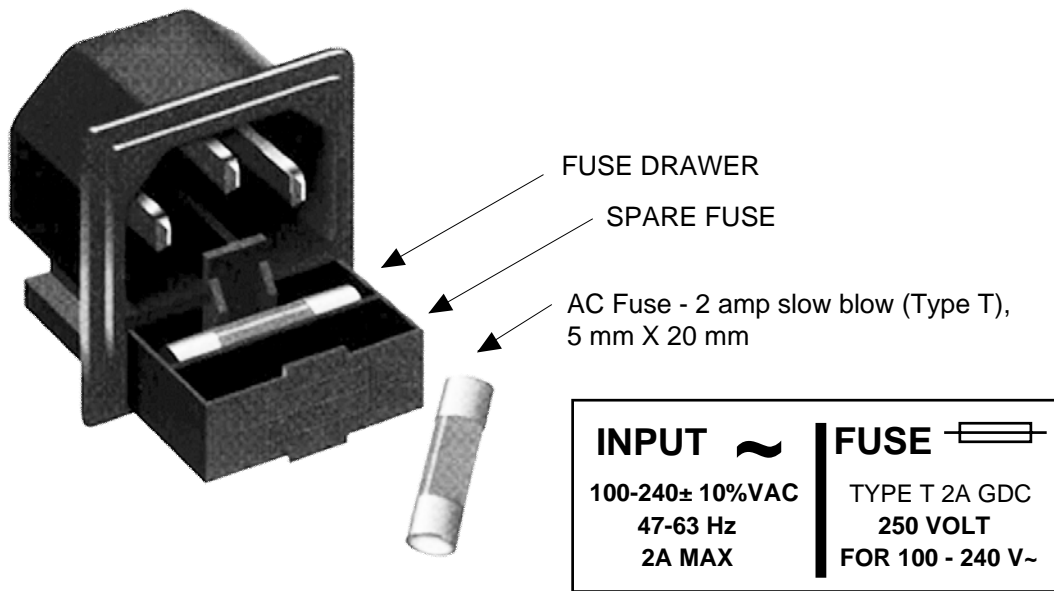


**FIGURE 2.3 Front Panel Controls and Indicators**

## 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  $\pm$ 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.



**FIGURE 2.4 Fuse Location and Spare Fuse**

### 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.





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