INSTRUCTION MANUAL

MODEL 1584-25 RF Splitter

When ordering parts from Cross Technologies, Inc., be sure to include the equipment model number, equipment serial number, and a description of the part.

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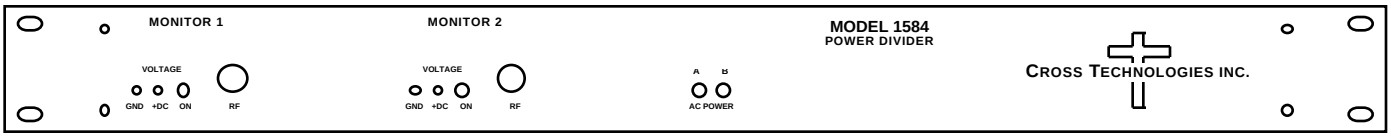
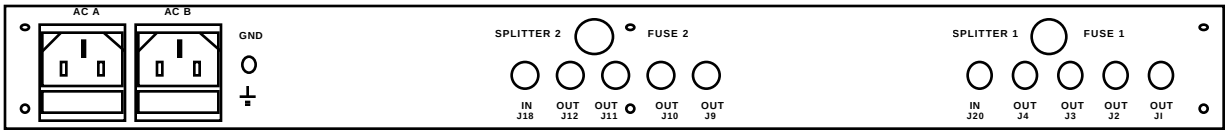
MODEL 1584-25 RF Splitter

SECTION 1 GENERAL

1.1 Equipment Description- The Model 1584-25 is two, five way, 0.95 - 2 GHz, 0 dB gain splitters in a 1 Rack Unit chassis with redundant 115 VAC power supplies. Each splitter provides fused DC power insertion on the input connector center pin, surge protection, and excellent RF characteristics. Each splitter has a monitor connector on the front panel and four outputs on the back panel. Two individual 115 VAC input power supplies provide a diode OR'd + 22 VDC voltage for internal amplifiers and for DC to power external amplifiers (often Low Noise Block converters or LNBs) through DC power inserters. Each LNB power line is separately fused. A surge suppressor on each splitter input protects against high voltage transients. All splitter outputs are AC coupled so no DC appears on their center conductors. On the front panel, green LEDs indicate presence of +22 VDC at each LNB power supply output and DC voltage test points allow monitoring this voltage with a voltmeter. Presence of power from the +24 VDC power supplies is shown by the AC Power A and B green LEDs.



FRONT PANEL



REAR PANEL

Figure 1.1 Model 1584-25 Front and Rear Panels

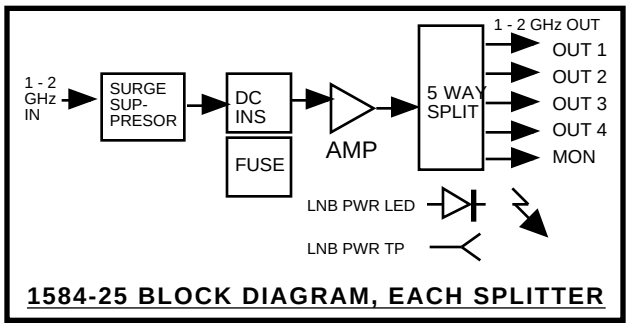


Figure 1.2 Model 1584-25 RF Splitter Block Diagram

1.2 Technical Characteristics

TABLE 1.0 1584-25 RF Splitter SPECIFICATIONS

Characteristics	Specifications*
Input Characteristics	
Input Impedance/RL	75 Ω /10dB, min, 0.95-2.05 GHz; 14dB, typ, 0.95-1.75 GHz
Input Level	-20 dBm total maximum
Output Characteristics	
Impedance/RL	75 Ω /10dB, min, 0.95-2.05 GHz; 14dB, typ, 0.95-1.75 GHz
In-Band Characteristics	
Gain	+0 dB ± 1.0 dB
Frequency Response	± 1.0 dB, 0.95 - 1.75 GHz; ± 0.5 dB, any 20 MHz incr. +1, -3 dB,1.75 - 2 GHz; ± 0.7 dB, any 20 MHz incr
Port to Port Isolation	> 18 dB, min., 20 dB typ.
Coupler to Coupler Isol.	> 35 dB, min., 40 dB typ
Indicators	
Power	Green LED indicates DC voltage prior to diode OR and to amplifiers
Other	
LNB DC voltage	22 ± 2 VDC
Output Amplifier current	300 ma, max., each
Surge Suppressor	SiDACTOR
RF connectors	Type F , female
Fuses - AC	5mm, 2 amp, fast blo
Fuses - LNB Voltage	1/4 “, 1 amp, fast blo
AC Power	Redundant power supplies, 90 - 260 VAC, 50 -60 Hz, 30 watts max
Mechanical	19 inch standard chassis 1.75”high X 12” deep

*+10 to +40 degrees C; 2000 meters max elevation; 80% max humidity; Pollution Degree 2; Specifications subject to change without notice.

2.0 Installation

2.1 Mechanical - The 1584-25 consists of one RF printed circuit board (PCB) housed in a 1 RU (1 3/4 inch high) by 12 inch deep chassis. Redundant, switching, +24 VDC power supplies with the DC output diode OR'd provide redundant power for the internal and external amplifiers and LEDs. Connectors are type F, female for the RF connections. The 1584-25 can be secured to a rack using the 4 holes on the front panel. Figure 2.1.shows how the 1584-25 is assembled. J28 and J26 connect DC Power to the fuses as shown and J30 and J29 connect the DC voltage from the power supplies to the PCB as shown.

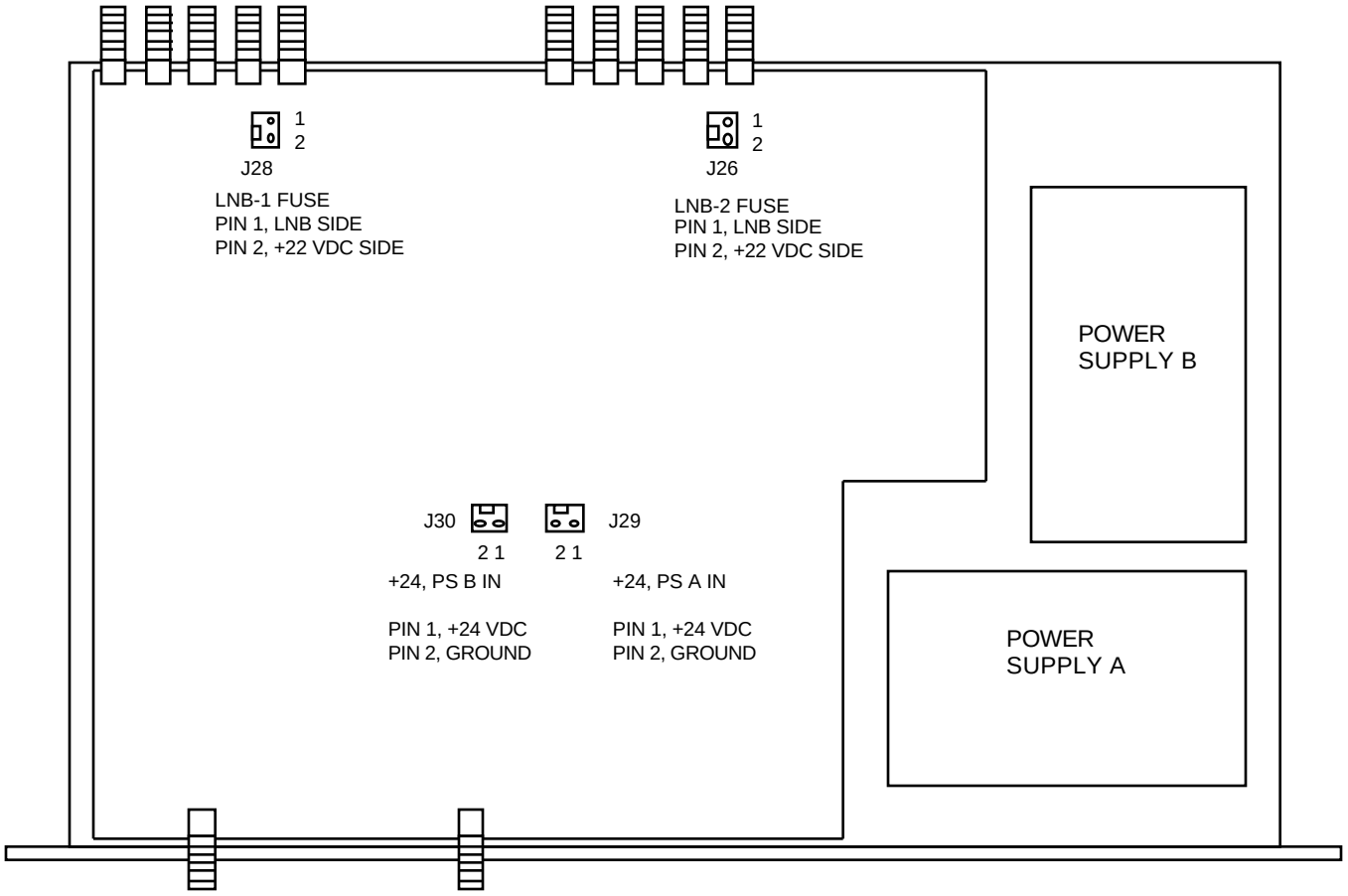


FIGURE 2.0 1584-25 MECHANICAL ASSEMBLY

2.2 Rear Panel Input/Output Connectors -

The input and output connectors on the rear panel are shown in Figure 2.1.

CAUTION! IF FUSES ARE INSTALLED IN THE FUSE 1 OR FUSE 2 HOLDERS, +22 VDC WILL APPEAR ON THE CORRESPONDING SPLITTER INPUT CONNECTOR CENTER PINS.

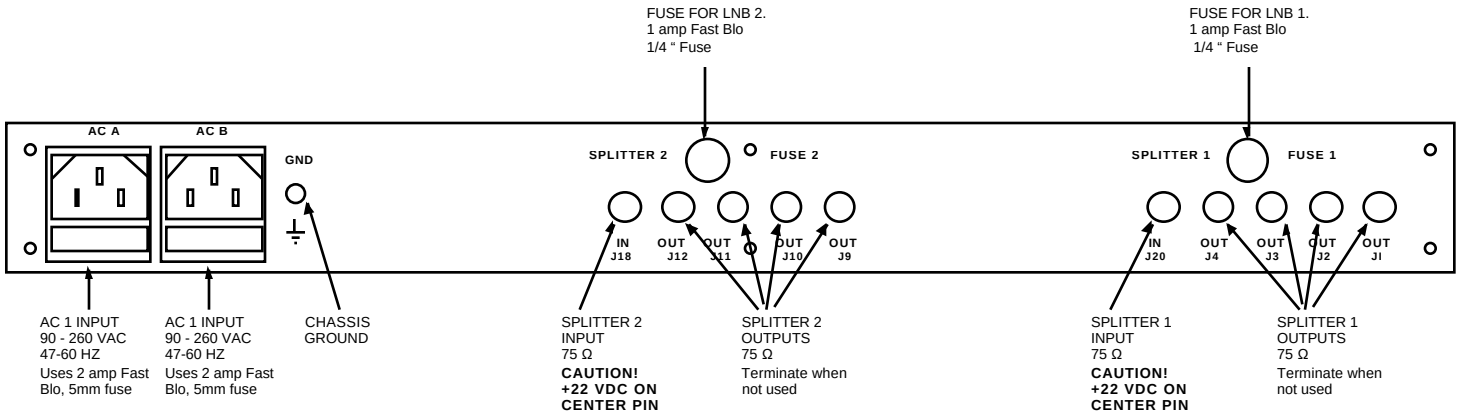


FIGURE 2.1 1584-25 REAR PANEL

2.3 Front Panel Monitors and Indicators -

Figure 2.2 shows the front panel monitors and indicators.

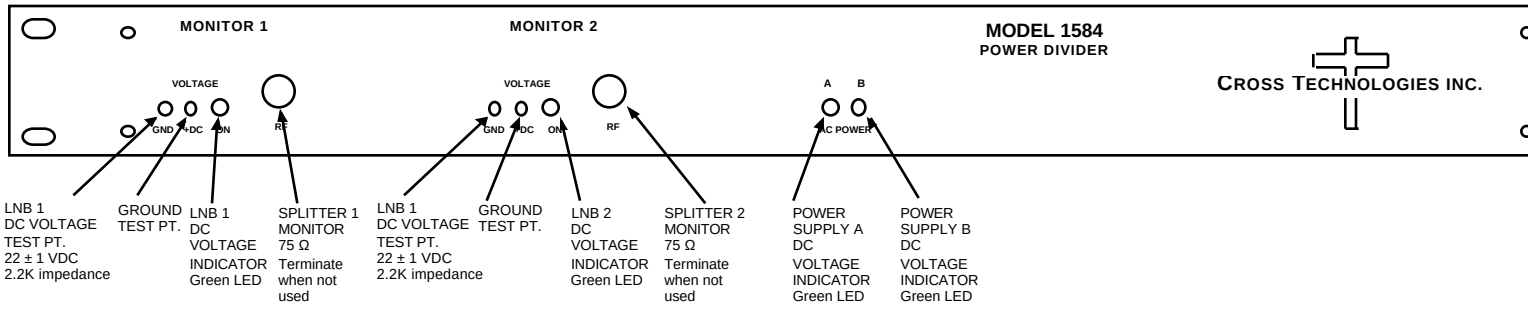


FIGURE 2.2 1584-25 FRONT PANEL

2.4 Operation -

1.) Connect RF cables to the 1584-25 (See Section 2.2).

2.) IF DC VOLTAGE IS REQUIRED ON THE SPLITTER RF INPUT CENTER CONDUCTOR, install 1/4", 1 amp fast blo fuses in Fuse 1 and/or Fuse 2 holders.

CAUTION! IF FUSES ARE INSTALLED IN THE FUSE 1 OR FUSE 2 HOLDERS, +22 VDC WILL APPEAR ON THE CORRESPONDING SPLITTER INPUT CONNECTOR CENTER PINS.

3.) Connect 90- 260 VAC, 47 - 63 Hz to AC A and AC B on the back panel and observe A and B LEDs are lit on the front panel.

4.) Monitor RF signals on the front panel monitors and DC voltage to the external amplifiers (Front panel Green ON LEDs should be lit if LNB fuses are installed in the rear panel fuse holders) to insure proper signals and voltages.

NOTE: FOR OPTIMUM PERFORMANCE, THE MONITOR PORT AND SPLITTER PORTS SHOULD BE TERMINATED WITH 75 OHM TYPE F TERMINATIONS WHEN NOT USED.

5.) **AC Fuse -** The fuse is a 5mm, 2 amp fast blo and is inserted in the far slot in the drawer below the AC input as shown in Figure 2.6. There is a spare fuse in the near slot. If a fuse continues to open, the power supply is most likely defective. Note that each power supply module within the chassis also has a fuse but failure of this fuse indicates the power supply may be defective.

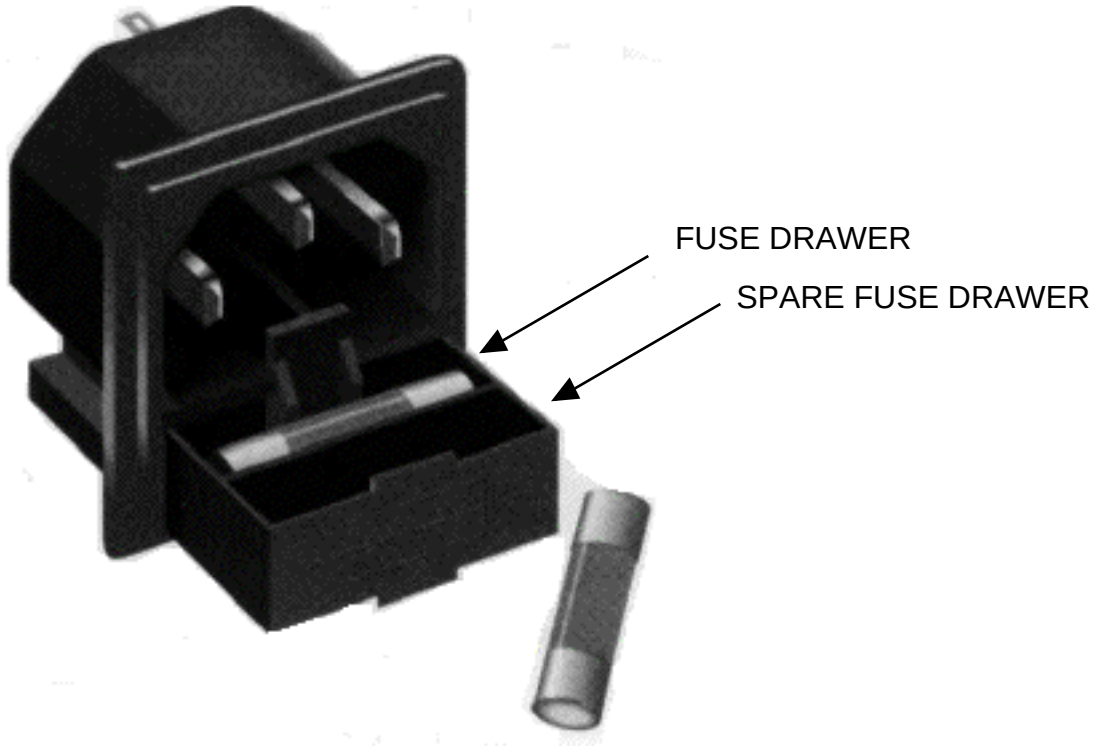


FIGURE 2.6 FUSE LOCATION AND SPARE FUSE