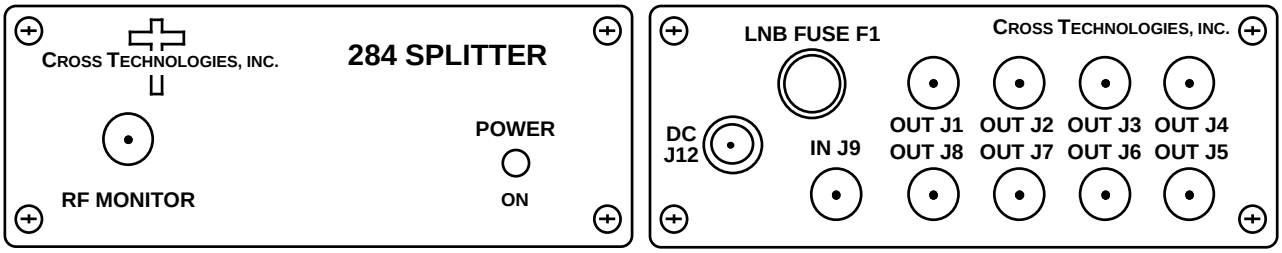
Instruction Manual

Model 284-09
RF Splitter

October 2013, Rev. C



FRONT **REAR**

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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INSTRUCTION MANUAL

MODEL 284-09 RF Splitter

TABLE OF CONTENTS **PAGE**

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MODEL 284-09 RF Splitter

1.0 General

1.1 Equipment Description- The Model 284-09 is a nine way, 0.95 - 2.05 GHz, 0 dB gain splitter with excellent RF characteristics in a 4.7”W x 1.75”H x 6.5”D bench top chassis (or mounted on an optional 1 Rack Unit panel) with a 115 VAC wall power supply. The splitter has a monitor connector on the front panel and eight outputs on the back panel. The 115 VAC wall power supply provides +18 VDC voltage for an internal amplifier. All splitter outputs are AC coupled so no DC appears on their center conductors. Presence of power from the +18 VDC wall power supply is shown by the green AC Power LED. Up to three 284’s can be mounted on an optional 1 3/4” x 19” rack mount panel (option R1, R2, or R3).

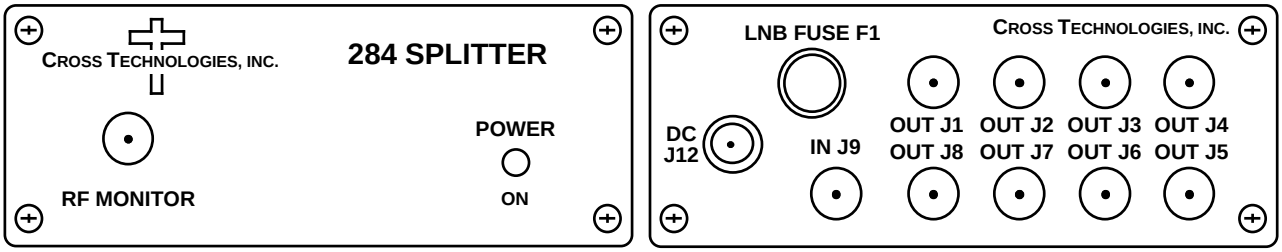


FIGURE 1.1 Model 284-09 Front and Rear Panels

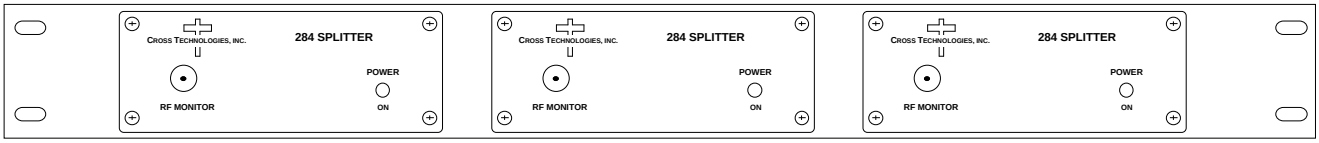


FIGURE 1.2 Three 284’s Mounted On Optional -R3 Rack Panel

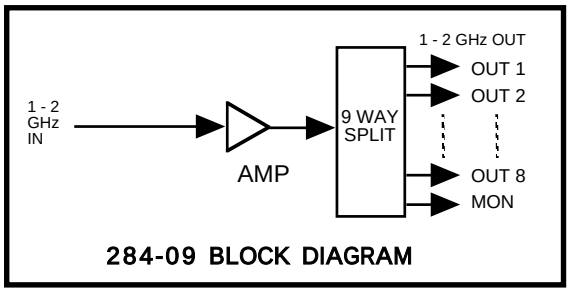


FIGURE 1.3 Model 284-09 RF Splitter Block Diagram

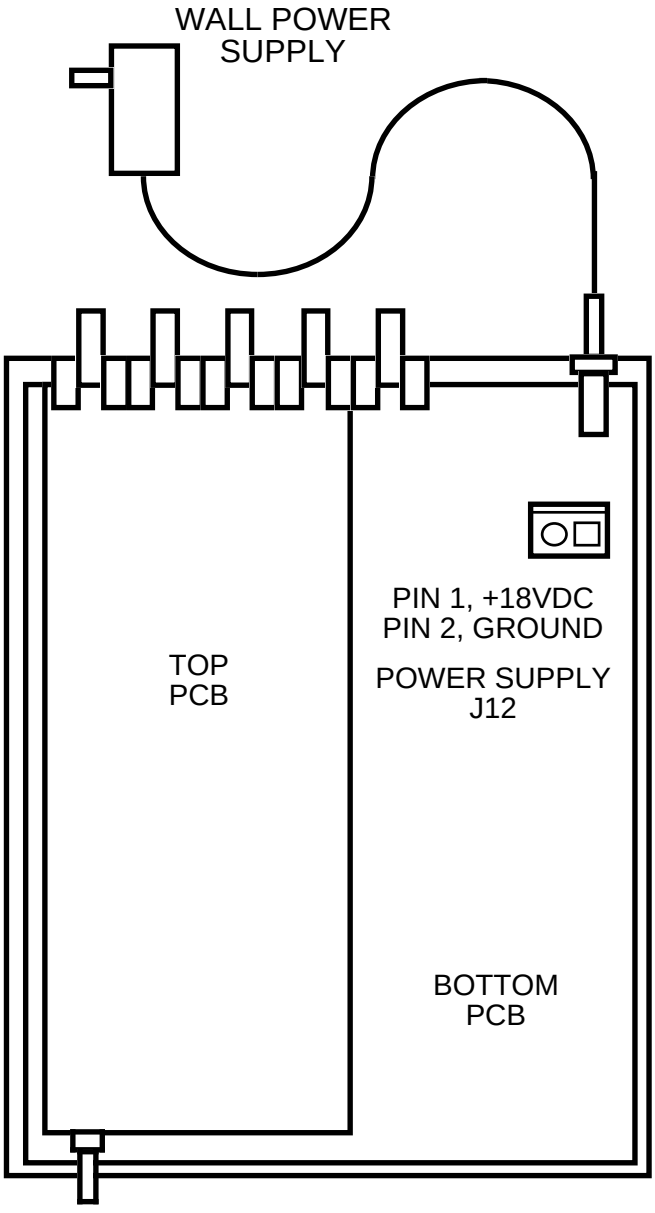
1.2 Technical Characteristics

TABLE 1.0 284-09 RF Splitter Specifications*	
Input Characteristics	
Input Impedance	75Ω /10 dB, minimum, 0.95 - 2.05 GHz
Return Loss	12 dB minimum, 14 dB, typical 0.95 - 1.75 GHz
Input Level	-20 dBm total maximum
Output Characteristics	
Impedance/RL	75 Ω/10 dB, minimum, 0.95 - 2.05 GHz
	12 dB minimum, 14 dB, typical 0.95 - 1.75 GHz
In-Band Characteristics	
Gain	+0 dBm ± 1.0 dB
Frequency Response	±1.0 dB, 0.95 - 2.05 GHz; ± 0.5 dB, any 20 MHz increase
Port to Port Isolation	> 18 dB, minimum, typical 20 dB
Indicators	
Power	Green LED indicates DC Voltage prior to diode OR
Other	
Surge Suppressor	SiDACTOR
RF Connectors	Type F, female
AC Power	115 VAC, 60 Hz, 10 W maximum, Wall Power Supply
Size, Bench Top	4.7” wide X 1.75” high X 6.5” deep
Size, Rack Mount (-R)	19” Standard Chassis, 1.75” high X 7.0” deep
Options	
-R1, -R2 or -R3	Rack Mounting (1RU)
-C	No Wall Mount Power Supply (use Model 2000-02 Power Supply)
-P2	100-240 ±10% VAC Wall Mount Power Supply
-D	50Ω BNC (RF), 50Ω BNC (IF) STD
W9 -	10 MHz pass through (J9 to J8)
Models	
284 -05	One 5-way Splitter
284 -09	One 9-way Splitter
**+10˚C to +40˚C; Specifications subject to change without notice	

2.0 Installation

2.1 Mechanical - The 284-09 consists of two RF printed circuit boards (PCBs) attached through a RF coaxial cable, and is housed in a 4.7”W x 1.75”H x 6.5”D bench top chassis. A 115 VAC, 60 Hz wall power supply provides +18VDC power for the internal and external amplifiers and LEDs. RF connectors are type F, female. The 284-09 can also be secured to a rack using the four holes on the optional 1 RU chassis front panel. Figure 2.1 shows how the 284-09 is assembled. J12 connects the DC voltage from the power supply to the PCB as shown.

FIGURE 2.1 284-09 Mechanical Assembly



2.2 Rear Panel Input/Output Connectors

The input and output connectors on the rear panel are shown in Figure 2.2.

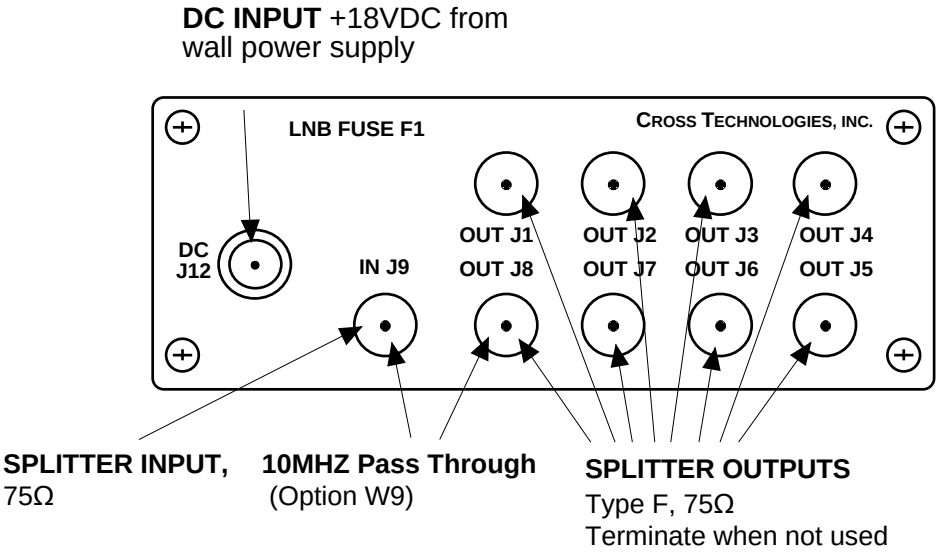


FIGURE 2.2 284-09 Rear Panel

2.3 Front Panel Monitors and Indicators

Figure 2.3 shows the front panel monitors and DC Voltage Indicator.

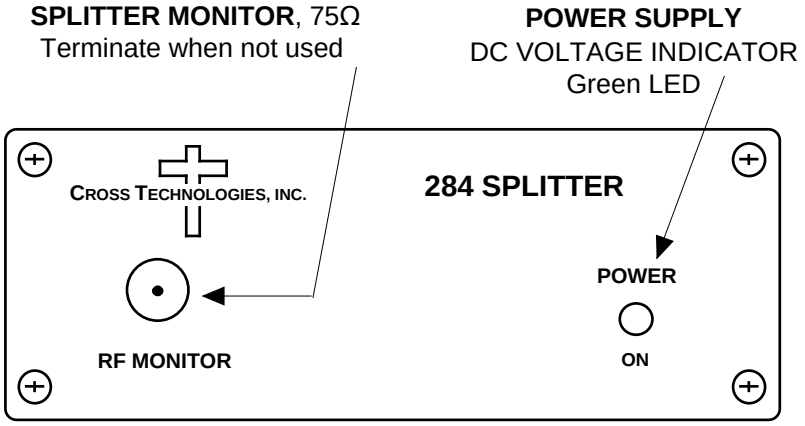


FIGURE 2.3 284-09 Front Panel

2.4 Operation

1.) Connect RF cables to the 284-09 (See Sections 2.2 and 2.3).

2.) Connect the wall power supply to the DC connector (J12) on the rear panel of the 284-09 and then to a 115 VAC, 60 Hz power outlet, and observe that the POWER LED is lit on the front panel.

3.) Monitor the RF signal on the front panel monitor to insure proper signal.

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

2.5 Rack Mounting - The 284-09 is packaged in an aluminum extrusion. The **-R option** is mounted on a 1 3/4" x 19" rack panel that can be mounted to a rack using the four holes at the ends. To mount a 284-09 unit to a rack panel, remove the four screws attaching the front panel to the extrusion, and then (using the same screws) reattach the front panel to the front of the rack panel with the extrusion (containing the PCB) on the other side of the rack panel (see Figure 2.5).

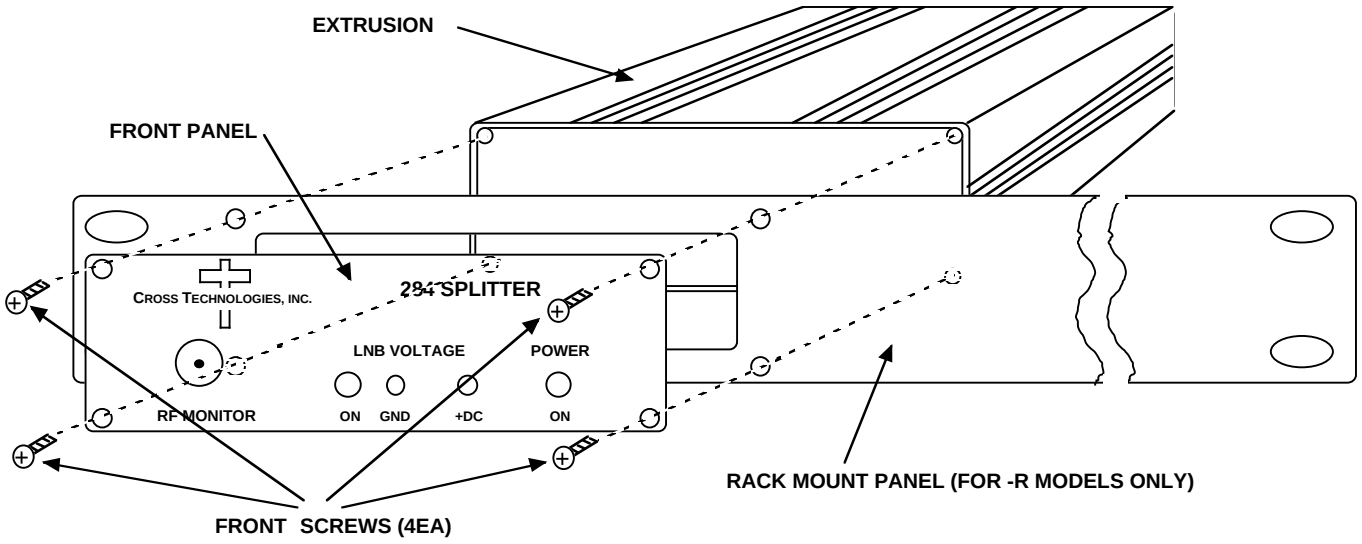


FIGURE 2.5 Rack Mounting the 284-09

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. (See figure 2.5)

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

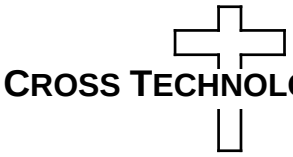
C. **Elevated Operating Ambient Temperature** - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack may be greater than room ambient temperature. Therefore, consideration should be given to Tmra.

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 unit 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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