

# **INSTRUCTION MANUAL**

## **MODEL 284-09 RF Splitter**

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## MODEL 284-09 RF Splitter

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**WARRANTY** - The following warranty applies to all Cross Technologies, Inc. products.

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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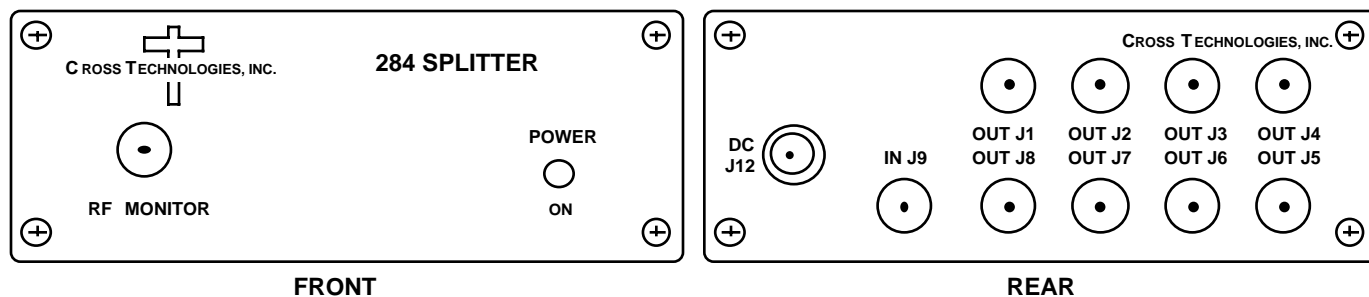
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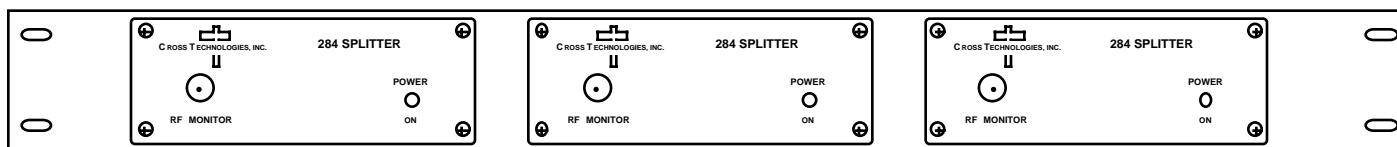
# MODEL 284-09 RF Splitter

## 1.0 General

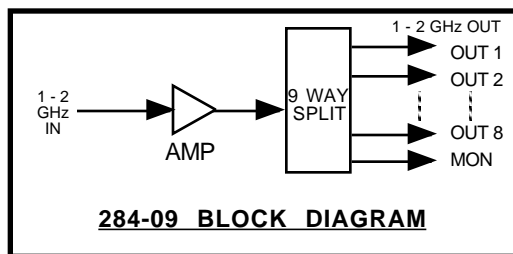
**1.1 Equipment Description-** The Model 284-09 is a nine way, 0.95 - 2.05 GHz, 0 dB gain splitter with excellent RF characteristics in a 4.7"W x 1.75"H x 6.5"D bench top chassis (or mounted on an optional 1 Rack Unit panel) with a 115 VAC wall power supply. The splitter has a monitor connector on the 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 284s Mounted On Optional -R3 Rack Panel**



**FIGURE 1.3 Model 284-09 RF Splitter Block Diagram**

## 1.2 Technical Characteristics

**TABLE 1.1 284-09 RF Splitter Specifications**

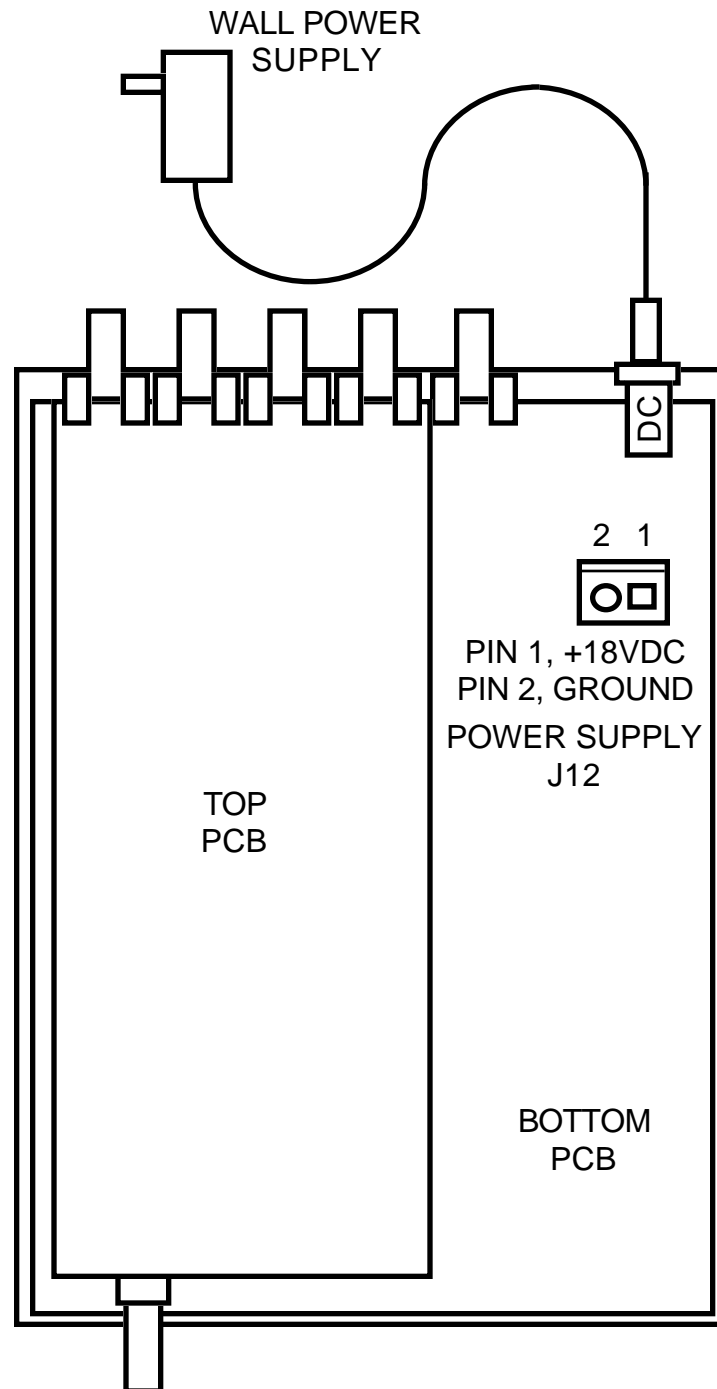
<b><u>Characteristics</u></b>	<b><u>Specifications*</u></b>
<b>Input Characteristics</b>	
Input Impedance/RL	75 $\Omega$ /10dB, min, 0.95-2.05 GHz; 14dB, typ, 0.95-1.75 GHz
Input Level	-20 dBm total maximum
<b>Output Characteristics</b>	
Impedance/RL	75 $\Omega$ /10dB, min, 0.95-2.05 GHz; 14dB, typ, 0.95-1.75 GHz
<b>In-Band Characteristics</b>	
Gain	+0 dB $\pm$ 1.0 dB
Frequency Response	$\pm$ 1.0 dB, 0.95 - 2.05 GHz; $\pm$ 0.5 dB, any 20 MHz incr.
Port to Port Isolation	> 18 dB, min., 20 dB typ.
<b>Indicators</b>	
Power	Green LED indicates DC voltage
<b>Other</b>	
RF connectors	Type F , female
AC Power	115 VAC, 60 Hz, 10 W max, wall power supply
Size, Bench Top	4.7"W x 1.75"H x 6.5"D
Size, Rack Mount (-R)	19 inch standard chassis 1.75"high X 7.0" deep

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\*+10 to +40 degrees C

## 2.0 Installation

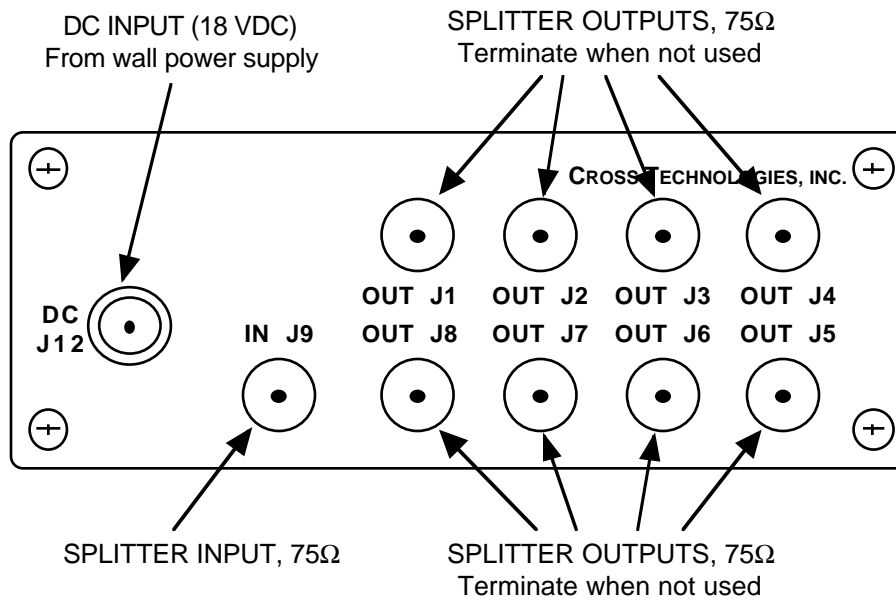
**2.1 Mechanical** - The 284-09 consists of two RF printed circuit boards (PCBs) attached through a RF coaxial cable, and is housed in a 4.7”W x 1.75”H x 6.5”D bench top chassis. A 115VAC, 60Hz wall power supply provides +18VDC power for the internal and external amplifiers and LEDs. RF connectors are 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

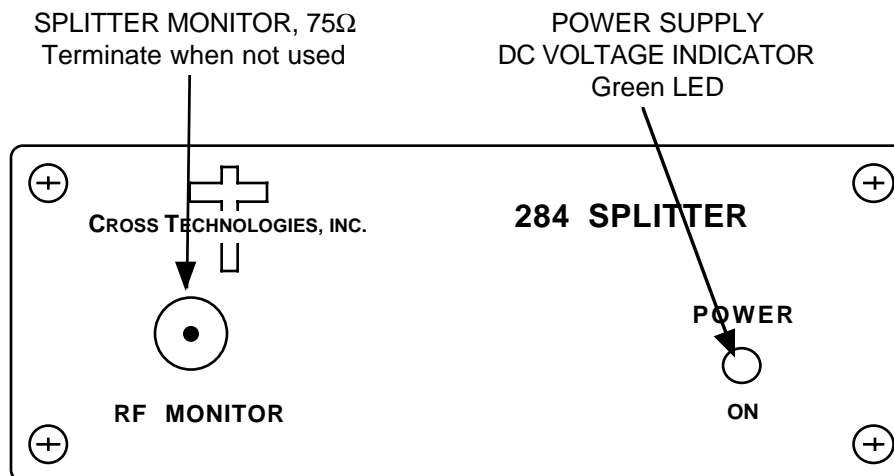
The input and output connectors on the rear panel are shown in Figure 2.2.



**FIGURE 2.2 284-09 Rear Panel**

## 2.3 Front Panel Monitors and Indicators

Figure 2.3 shows the front panel monitor and indicator.



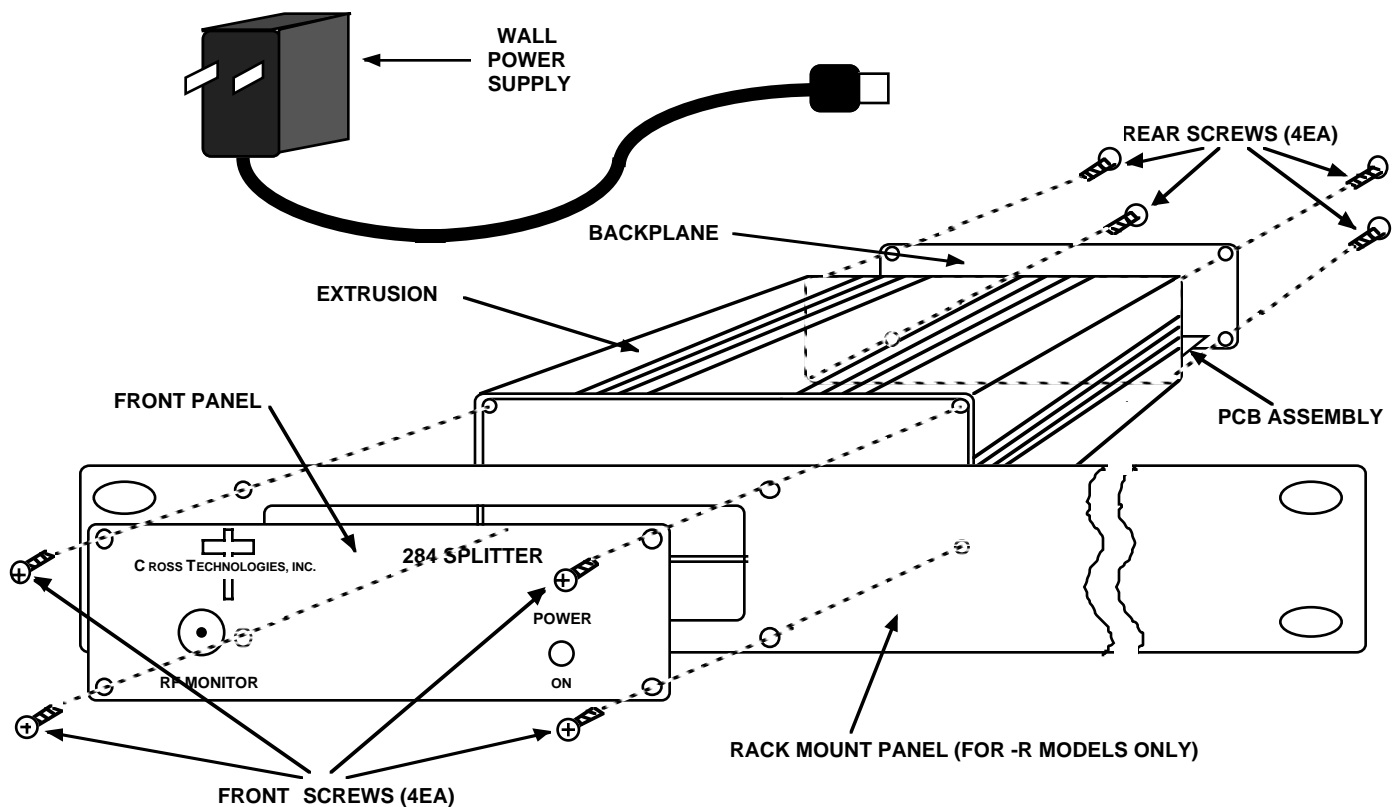
**FIGURE 2.3 284-09 Front Panel**

## 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 115VAC, 60Hz 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 75 OHM 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**