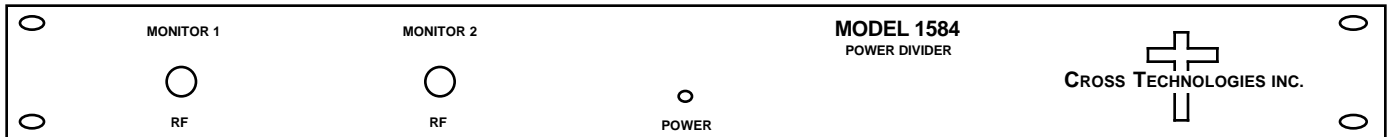


# Instruction Manual

# Model 1584-29S RF Splitter

January 2010 Rev B



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**INSTRUCTION MANUAL**  
**MODEL 1584-29S RF Splitter**

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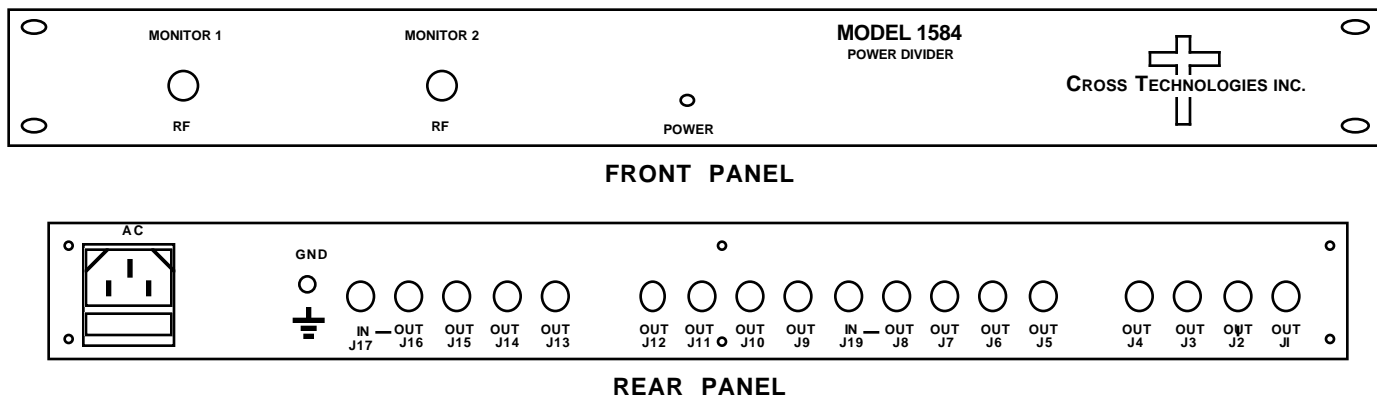
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# MODEL 1584-29S RF Splitter

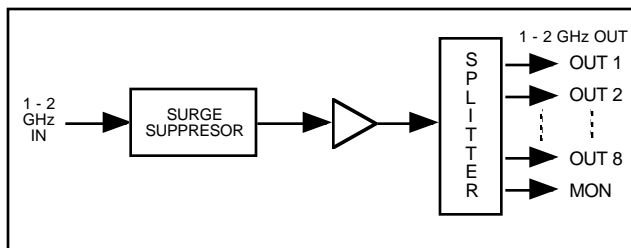
## 1.0 General

### 1.1 Equipment Description

The Model 1584-29S provides dual 8-way, 0.95 - 2.05 GHz, 0 dB gain splitters with 9th monitor port in a 1 Rack Unit chassis with redundant 100-240  $\pm$ 10% VAC power supplies. Each splitter provides surge protection and excellent RF characteristics. Each splitter has a monitor connector on the front panel and eight outputs on the back panel. One 115 VAC input power supply provides +24 VDC voltage for internal amplifiers. 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, a green LED indicates the presence of power from the +24 VDC power supply.



**FIGURE 1.1 MODEL 1584-29S Front and Rear Panels**



**FIGURE 1.2 MODEL 1584-29S Block Diagram (Each Splitter)**

## 1.2 Technical Characteristics

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

|             |   |
|-------------|---|
| Impedance   | 75 $\Omega$   |
| Return Loss | 10dB min, 0.95-2.05 GHz;<br>14dB typ, 0.95-1.75 GHz |
| Input Level | -20 dBm total maximum                               |

#### Output Characteristics

|             |   |
|-------------|---|
| Impedance   | 75 $\Omega$   |
| Return Loss | 10dB min, 0.95-2.05 GHz;<br>14dB typ, 0.95-1.75 GHz |

#### In-Band Characteristics

|                          |  |
|--------------------------|--|
| 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.                                    |
| Coupler to Coupler Isol. | > 35 dB, min., 40 dB typ                                     |

#### Indicators

|       |           |
|-------|-----------|
| Power | Green LED |
|-------|-----------|

#### Other

|                  |   |
|------------------|---|
| Surge Suppressor | SiDACTOR  |
| RF connectors    | Type F (female) see TABLE 2.1 for other options |
| Fuse - AC        | 5mm, 2 amp, fast blo                            |
| AC Power         | 100-240 $\pm$ 10% VAC, 47 -63 Hz, 30 watts max  |
| Mechanical       | 19 inch standard chassis 1.75"high X 12" deep   |

#### Options

|            |                          |
|------------|--------------------------|
| R          | Redundant power supplies |
| Connectors | see TABLE 2.1            |

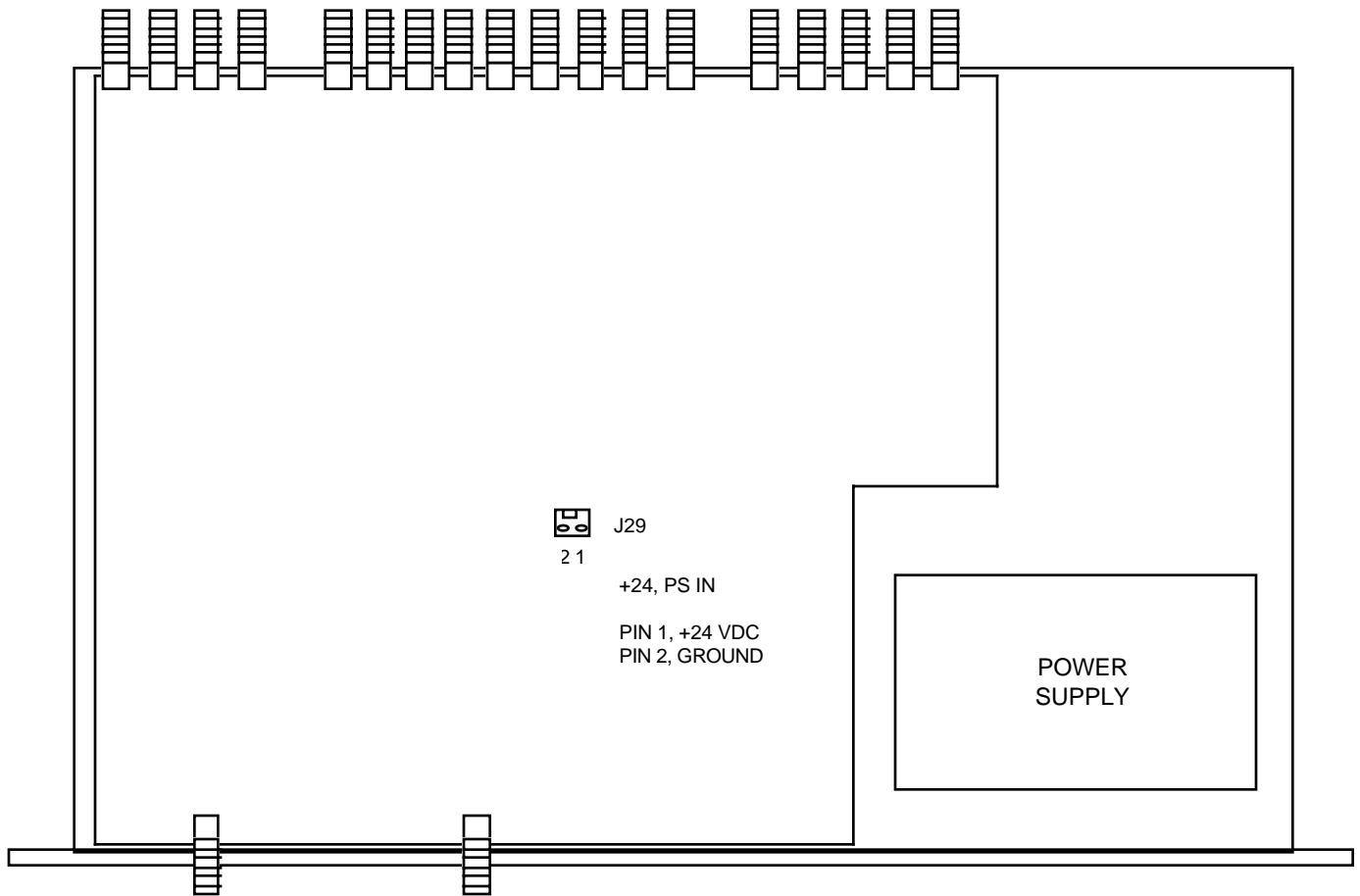
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\*+10°C to +40°C; 2000 meters max elevation; 80% max humidity; Pollution Degree 2; Specifications subject to change without notice.

## 2.0 Installation

### 2.1 Mechanical

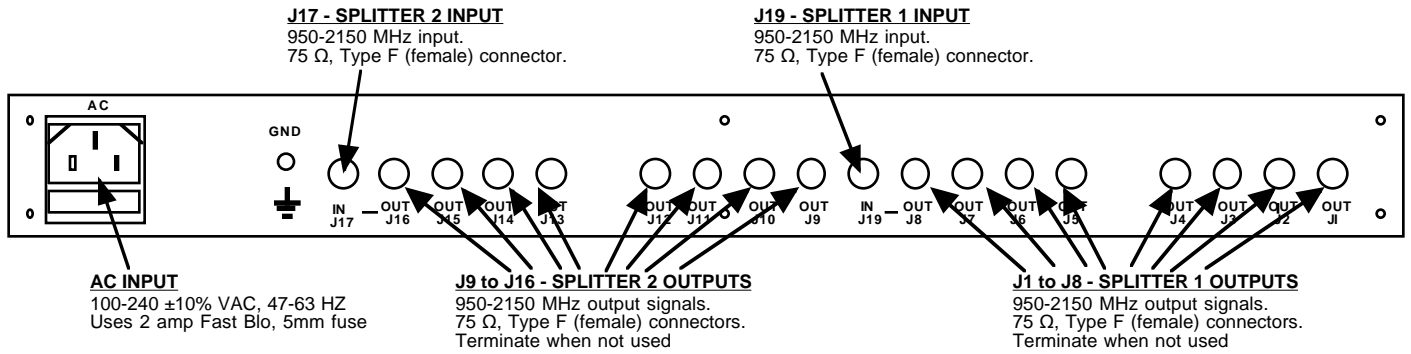
The 1584-29S consists of one RF printed circuit board (PCB) housed in a 1 RU (1 3/4 inch high) by 12 inch deep chassis. One +24 VDC power supply provides power for the internal amplifiers and LED. Connectors are type F, female for the RF connections. The 1584-29S can be secured to a rack using the 4 holes on the front panel. Figure 2.1 shows how the 1584-29S is assembled. J29 connects the DC voltage from the power supply to the PCB as shown.



**FIGURE 2.0 1584-29S Mechanical Assembly**

## 2.2 Rear Panel Input/Output Connectors

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

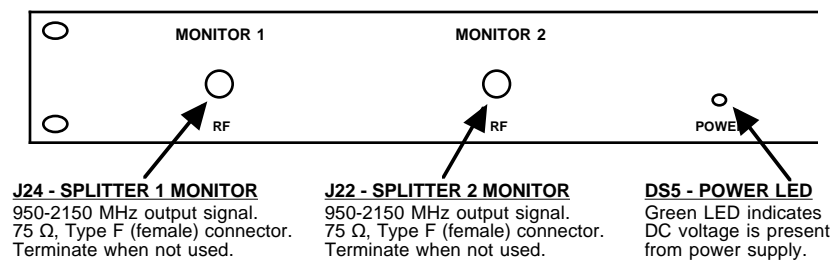


**FIGURE 2.1 1584-29S Rear Panel**

| Option | RF Connector        |
|--------|---------------------|
| STD    | Type F, 75 $\Omega$ |
| B      | BNC, 75 $\Omega$    |
| D      | BNC, 50 $\Omega$    |

## 2.3 Front Panel Monitors and Indicators

Figure 2.2 shows the front panel monitors and indicators.

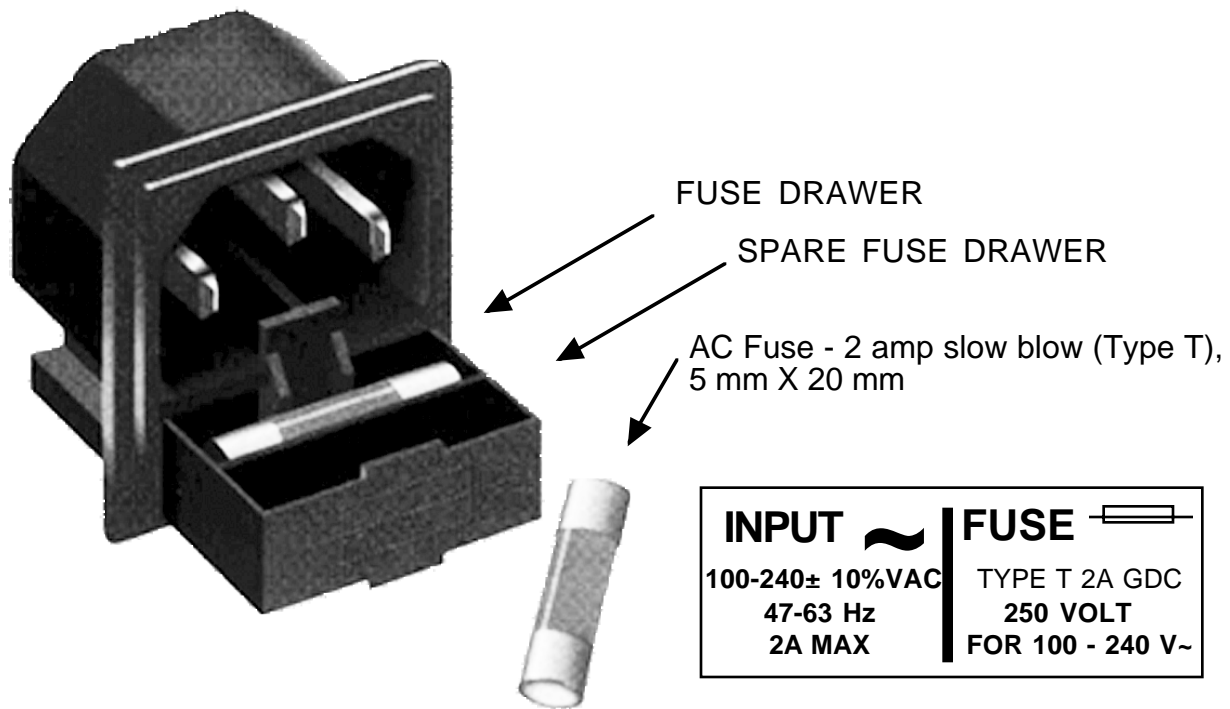


**FIGURE 2.2 1584-29S Front Panel**

## 2.4 Operation

1. Connect RF cables to the 1584-29S (Figure 2.1).
2. Connect 100-240  $\pm$ 10% VAC, 47 - 63 Hz to AC on the back panel and observe that the AC POWER LED is lit on the front panel (Figure 2.2).
3. Monitor RF signals on the front panel monitors to insure proper signals (Figure 2.2).
4. 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 the power supply module within the chassis also has a fuse but failure of this fuse indicates the power supply may be defective.

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



**FIGURE 2.6 Fuse and Spare Fuse Locations**



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