2016-1251 Fixed Frequency Downconverter, 2.5125 GHz

The 2016-1251 S-band Downconverter converts 2.5125 GHz (±36 MHz) fixed to 140 (±36) MHz with low group delay and flat frequency response. Synthesized local oscillators (LO) provide very low phase noise and ±0.01 ppm stability frequency selection. Multifunction push button switches select the gain, and other variable parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), remote operation (yellow) or the TX carrier is muted (yellow). Gain is adjustable manually over a 0 to +50 dB range as adjusted by the front panel multifunction push-button switches. Remote operation allows selection of gain and other variable parameters. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are Type N (female) for the RF input and BNC (female) for IF output and optional external reference input / output. The External 10 MHz reference Option also includes a 10 MHz output connector, which provides the selected (internal or external) 10 MHz reference signal output. The unit is powered by a 90-260 VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics (RF)**
- Impedance/Return Loss: 50Ω/12 dB
- Frequency: 2.5125 GHz (±36 MHz) Fixed
- Input Level Range: -70 to -20 dBm
- Input 1dB compression: -15 dBm

**Output Characteristics (IF)**
- Impedance/Return Loss: 75Ω/18 dB
- Frequency: 140 ± 36 MHz
- Output level/max linear: -20dBm / -10dBm
- Output 1 dB compression: -5 dBm

**Channel Characteristics**
- Gain range (adjustable): 0.0 to +50.0 dB
- Image Rejection: > 50 dB, min.
- Frequency Response: 2.5125 GHz ; ± 0.5 dB, 72 MHz BW
- Spurious Response: < -60 dBC, in band, typical; -55 dBC max.
- Group Delay, max: 0.0035 ns/MHz, parabolic; 0.025 ns/MHz linear; 1 ns ripple
- Frequency Sense: Inverting or Non-inverting (selectable)

**Synthesizer Characteristics**
- Frequency Accuracy: ± .01 ppm internal reference
- Frequency Step: None; Fixed Frequency, non-tunable
- 10 MHz In/Out Level: 3 dBm ± 3 dB (option E)
- Phase Noise: @ Freq 10Hz 100Hz 1kHz 10kHz 100kHz 1MHz dB/Hz < -65 < -77 < -82 < -90 < -102 < -110

**Controls, Indicators**
- Freq/Gain Selection: direct readout LCD; manual or remote selection
- Pwr; Alarm; Remote: Green LED; Red LED; Yellow LED
- Remote: RS232C, 9600 baud (RS485, option Q)

**Other**
- RF Connector: N-type (female)
- IF Connector: BNC (female)
- 10MHz Connectors: BNC (female) 50Ω/75Ω (option E)
- Alarm/Remote Connector: DB9 (female) - NO or NC contact closure on Alarm
- Size: 19 inch, 1RU standard chassis 1.75"high X 16.0" deep
- Power: 90-260 VAC, 47-63 Hz, 45 W max

**Available Options**
- E - External 10 MHz ref input & output
- Q - RS485 Remote Interface
- O - LO Adjust

**Connectors/Impedance**
- B - 75Ω BNC (RF), 75Ω BNC (IF)
- C - 50Ω BNC (RF), 75Ω BNC (IF)
- D - 50Ω BNC (RF), 50Ω BNC (IF)
- M - 50Ω N-type (RF), 50Ω BNC (IF)

*10˚C to 40˚C; Specifications subject to change without notice*