2016-27 Downconverter, 2.5 - 2.7 GHz to 70 MHz

The 2016-27 Downconverter converts 2500 to 2700 MHz to 70 ± 18 MHz in 1 MHz steps with low group delay and flat frequency response. Synthesized local oscillators (LO) provide frequency selection. Multi-function push button switches select the RF frequency and gain. Front panel LEDs provide indication of DC power (green), remote operation (yellow), and PLL alarm (red). Variable attenuators for the RF input provide a gain range of 0 to +50 dB as adjusted by the front panel multi-function pushbutton switches. Frequency and gain settings appear on the LCD display. Connectors are BNC female for RF, IF and optional 10 MHz Input and Output signals (option E). The unit is powered by a 100-240 ±10% VAC power supply, and housed in a 1 3/4” X 19” X 16” rack mount chassis.

**Front Panel**

**EQUIPMENT SPECIFICATIONS***

**Input Characteristics (RF)**
- Impedance/Return Loss: 50Ω / 12 dB
- Frequency: 2.5 to 2.7 GHz
- Noise Figure: 15dB max, max gain
- Level Range: -70 to -20 dBm
- Input 1dB compression: -15 dBm, min gain

**Output Characteristics (IF)**
- Impedance/Return Loss: 75Ω / 18 dB
- Frequency: 70 ± 18 MHz
- Level Range: -30 to -20 dBm
- Output 1 dB compression: -15 dBm

**Channel Characteristics**
- Gain range (adjustable): 0.0 to +50.0 dB, 1dB steps, manually adjusted
- Image Rejection: > 50 dB, min.
- Frequency Response: ±2.0 dB, 2500 to 2700 MHz ; ±0.5 dB, 36 MHz BW
- Spurious Response: < -45 dBC, in band
- Group Delay, max: 0.01 ns/MHz² parabolic; 0.03 ns/MHz linear; 1 ns ripple
- Frequency Sense: Inverting or Non-inverting (selectable)

**Synthesizer Characteristics**
- Frequency Accuracy: ±1.0 ppm internal reference (±0.01 ppm, option H)
- Frequency Step: 1.0 MHz
- 10 MHz In/Out Level: +3 dBm ± 3 dB (option E)

**Phase Noise @ Freq**

<table>
<thead>
<tr>
<th>Freq</th>
<th>-70</th>
<th>-80</th>
<th>-95</th>
<th>-105</th>
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<tbody>
<tr>
<td>100Hz</td>
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<td>1kHz</td>
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<td>10kHz</td>
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<td>1MHz</td>
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**Controls, Indicators**
- Freq/Gain Selection: direct readout LCD; manual or remote selection
- Pwr; Alarm; Rem; Mute: Green LED; Red LED; Yellow LED; Red LED
- Remote: RS232C, 9600 baud (RS485, option Q)

**Available Options**
- E - External 10 MHz ref input & output
- H - High Stability Internal Ref (±0.01 ppm)
- Q - RS485 Remote Interface
- X - 125 kHz Frequency Steps Connectors/Impedance
- B - 75Ω BNC (RF), 75Ω BNC (IF)
- D - 50Ω BNC (RF), 50Ω BNC (IF)
- N - 50Ω N-type (RF), 75Ω BNC (IF)
- M - 50Ω N-type (RF), 50Ω BNC (IF)
- S - 50Ω SMA (RF), 50Ω BNC (IF)
- W6- Ethernet M&C Remote Interface

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