2016-26 Downconverter, 2.0 - 2.5 GHz to 140 MHz

The 2016-26 Downconverter converts 2000 to 2500 MHz to 140 ± 36 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.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics (RF)**
- Impedance/Return Loss: 50Ω / 12 dB
- Frequency: 2.0 to 2.5 GHz
- Level Range: -70 to -20 dBm
- Input 1dB compression: -15 dBm

**Output Characteristics (IF)**
- Impedance/Return Loss: 75Ω / 18 dB
- Frequency: 140 ± 36 MHz
- Level Range: -30 to -20 dBm
- Output 1 dB compression: -15 dBm

**Channel Characteristics**
- Gain range (adjustable): 0.0 to +50.0 dB
- Image Rejection: > 50 dB, min.
- Frequency Response: ±1.5 dB, 2.0 - 2.5 GHz; ± 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>Frequency</th>
<th>100 Hz</th>
<th>1kHz</th>
<th>10kHz</th>
<th>100kHz</th>
<th>1 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>dBC/Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-70</td>
<td>-70</td>
<td>-80</td>
<td>-95</td>
<td>-105</td>
</tr>
</tbody>
</table>

**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)

**Other**
- RF, IF Connectors: BNC (female), 50Ω/75Ω
- 10MHz Connectors: BNC (female), 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: 100-240 ±10% VAC, 47-63 Hz, 45 W max.

**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)

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