2015-1083 Fixed Frequency Upconverter, 835.5 MHz

The 2015-1083 UHF-band Upconverter converts 140 (± 36) MHz to 835.5 (±36 MHz) Fixed with low group delay and flat frequency response. Synthesized local oscillators (LO) provide very low phase noise and ±0.01 ppm stability frequency selection. Multi-function 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). Variable attenuators for the IF input and output provide a gain range of -10 to +30 dB as adjusted by the front panel multi-function 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 BNC (female) for IF input and optional external reference input / output, and Type N (female) for the RF output. The External 10 MHz reference Option includes a 10 MHz output connector, which provides the selected (internal or external) 10 MHz reference signal output. 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 (IF)**
- Impedance/Return Loss: 75Ω / 18 dB
- Frequency: 140 ± 36 MHz
- Input Level: -40 to -10 dBm

**Output Characteristics (RF)**
- Impedance/Return Loss: 50Ω / 12 dB
- Frequency: 835.5 MHz (±36 MHz) Fixed
- Output level: -20 to 0 dBm
- Output 1 dB comp.: +5 dBm

**Channel Characteristics**
- Gain range (adjustable): -10.0 to +30.0 dB
- Frequency Response: 835.5 MHz; ±0.5 dB, 72 MHz BW
- Spurious Response: < -60 dBc, in band typical; -55 dBc max.
- Group Delay, max: 0.0035 ns/MHz² parabolic; 0.025 ns/MHz linear; 1 ns ripple
- Frequency Sense: Non-inverting

**Synthesizer Characteristics**
- Frequency Accuracy: ±0.01 ppm internal reference
- Frequency Step: None; Fixed Frequency, non-tunable
- 10 MHz In/Out Level: 3 dBm ± 3 dB (option E)

**Phase Noise @ Freq**

<table>
<thead>
<tr>
<th>Phase Noise @ Freq</th>
<th>100 Hz</th>
<th>1 kHz</th>
<th>10 kHz</th>
<th>100 kHz</th>
<th>1 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>dBC/Hz</td>
<td>-77</td>
<td>-82</td>
<td>-90</td>
<td>-102</td>
<td>-110</td>
</tr>
</tbody>
</table>

**Controls, Indicators**
- Freq/Gain Selection: direct readout LCD; pushbutton switches or remote selection
- Pwr; Alarm; Rem; Mute: Green LED; Red LED; Yellow 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 - 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 watts max

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

**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*