The 2083-43 Frequency Translator, 1 kHz steps, converts any 50 MHz band in the 290-400 MHz range (Fc 315-375 MHz), in 1 kHz steps, to a fixed 265 ± 25 MHz output with no spectrum inversion, low group delay, and flat frequency response. The UHF input signal is mixed with synthesized local oscillator (LO) signals, first to 1750 MHz and finally to the 265 ± 25 MHz output signal. Multifunction switches select the frequency translation, gain (0 to -10 dB, adjustable), and 10 MHz reference. These three settings appear on the LCD display. Front panel LEDs light when DC power is applied (green), a PLL alarm occurs (red), the signal is muted (yellow), or remote control is active (yellow). A 10 MHz input allows for connection of an external 10 MHz reference. The 10 MHz output contains the 10 MHz reference signal (be it internal or external). Connectors are BNC female for the UHF input and output and 10 MHz input and output. The 2083-43 has an internal ±0.01 ppm high stability reference and is housed in a 1 3/4" X 19" X 16" rack mount chassis.

EQUIPMENT SPECIFICATIONS*

**Input Characteristics**
- Input Impedance/RL: 75Ω / 12 dB
- Frequency: 290-400 MHz (315-375, 50 MHz BW)
- Input Level: -20 to -10 dBm
- Input 1 dB compression: 0 dBm

**Output Characteristics**
- Impedance/RL: 75Ω / 12 dB
- Frequency: 265 ± 25 MHz
- Output Level: -10 to -30 dBm

**Channel Characteristics**
- Gain: 0 to -10 dB; selectable in 1 dB steps
- Spurious Response: < -40 dB
- Bandwidth, response: ± 25 MHz, ± 0.75 dB
- Frequency Response: Over 290-400 MHz input to 265 MHz output, ± 1.5 dB
- Group Delay, ±25 MHz: 0.015 ns/MHz² parabolic; 0.05 ns/MHz linear; 2 ns ripple
- 10 MHz In/Out Level: 3 dB ± 3 dB
- Frequency Sense: Non-inverting

**Synthesizer Characteristics**
- Frequency Accuracy: ± 0.01 ppm internal reference
- Step Size: 1 kHz, 315 to 375 MHz input center frequency to 265 MHz output center frequency, ± 25 MHz bandwidth
- 10 MHz In/Out Level: 3 dBm ± 3 dB

**Phase Noise @ Freq**

<table>
<thead>
<tr>
<th>dBC/Hz</th>
<th>100Hz</th>
<th>1kHz</th>
<th>10kHz</th>
<th>100kHz</th>
<th>1MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-75</td>
<td>-50</td>
<td>-85</td>
<td>-100</td>
<td>-110</td>
</tr>
</tbody>
</table>

**Controls, Indicators**
- Frequency Translation: On LCD display; push-button switches or remote selection
- Gain Selection: On LCD display; push-button switches or remote selection
- Power; Alarm; Mute: Green LED; Red LED; Yellow LED
- Remote: Yellow LED; RS232C, 9600 baud

**Connectors/Impedance**
- RF Connectors: BNC (female), 75Ω
- 10MHz Connectors: BNC (female), 50Ω/75Ω
- Alarm Connector: DB9 - NO or NC contact closure on Alarm
- Size: 19 inch standard chassis 1.75" high X 16.0" deep
- Power: 100-240 ± 10% VAC, 47 - 63 Hz, 45 watts max.

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