Series 2083-1615 Block L to L Translator, Fixed Frequency

2083-1615 Block L to L Translator - The 2083-1615 Block L to L Translator converts a 1620-1670 MHz block to 1518.5-1568.5 MHz block with no spectrum inversion, low group delay and flat frequency response. The 1620-1670 MHz input is mixed with synthesized local oscillator (LO) signals, first to 2400 MHz center frequency and finally to the 1518.5-1568.5 MHz block output. Multi-function switches select the gain. The input frequency band, output frequency band, and gain (0 to +20 dB, selectable in 1 dB steps) settings appear on the LCD display. Front panel LEDs provide indication of DC power (green), PLL Alarm (red), and Remote (yellow). Remote operation allows setting the overall gain and Mute. Connectors are BNC female for RF input and output and for (optional) external 10 MHz reference (+3± 3 dBm in). It is powered by a 100-240 ±10% VAC, 47-63 Hz input power supply and housed in a 1 3/4" X 19" X 16" rack mount chassis. Option -H provides a 0.01 ppm reference.

EQUIPMENT SPECIFICATIONS*

2083-1615 Block L to L Translator

Input Characteristics
Input Impedance/RL 50Ω/12 dB
Frequency, 1620 – 1670 MHz
Input Level -10 to -30 dBm
Input, max. no damage +15 dBm

Output Characteristics
Impedance/RL 50Ω/12 dB, Mute & UnMute
Frequency 1518.5 – 1568.5 MHz
Output Level, Range -10 to -30 dBm
Output 1 dB compression 0 dBm
Mute >60 dB @ -10dBm output

Channel Characteristics
Gain at Fc 0 to +20 ± 1 dB, selectable in 1 dB steps
Frequency Response ± 1.0 dB, 50 MHz bandwidth; ± 0.5 dB, center 36 MHz increment
Spurious, In band >45 dBc signal dependent at -10 dBm out; < -50 dBm signal independent
Spurious, Out of band < -50 dBm, 0.5 to 3.0 GHz
Group Delay, max 0.010 ns/MHz², parabolic, 0.03ns/MHz, linear, 1 ns ripple center 36 MHz BW
Frequency Sense Non-inverting

Synthesizer Characteristics
Frequency Accuracy ± 1.0 ppm max over temp (±0.01 ppm, option-H)
Reference 10 MHz Internal; Internal/External, Option -E
Frequency Step None, fixed frequency translation

<table>
<thead>
<tr>
<th>Phase Noise @ F (Hz)</th>
<th>100</th>
<th>1K</th>
<th>10K</th>
<th>100K</th>
<th>1M</th>
</tr>
</thead>
<tbody>
<tr>
<td>dBc/Hz</td>
<td>-65</td>
<td>-70</td>
<td>-78</td>
<td>-90</td>
<td>-100</td>
</tr>
</tbody>
</table>

10 MHz Level (In or Out) 3 dBm, ± 3 dB, 75 ohms (option-E)

Controls, Indicators

Frequency Translation Setting Shown on LCD Display
Gain Selection, Mute direct readout LCD; manual or remote selection
Power; Alarm: Remote Green LED; Red LED; Yellow LED
Remote RS232C, 9600 baud (RS485, option-Q)
Ethernet Interface, options - W8, W18, W28)

Other
RF In/RF Out Connector BNC (female)
10 MHz Conn. (In & Out) BNC (female) (option-E)
Alarm/Remote Connector DB9 (female) - 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, 30 watts max.

Available Options

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
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<tbody>
<tr>
<td>E</td>
<td>External 10 MHz ref input &amp; output</td>
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<tr>
<td>E1</td>
<td>Ext.10 MHz ref input &amp; output w/ Auto Detect/Switching &amp; Auto Return</td>
</tr>
<tr>
<td>H</td>
<td>High Stability (±0.01ppm) internal reference M&amp;C Interface RS232 Std.</td>
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<tr>
<td>Q</td>
<td>RS485 Remote Interface</td>
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<tr>
<td>W8</td>
<td>Ethernet M&amp;C Web Browser Interface</td>
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<tr>
<td>W18</td>
<td>Ethernet M&amp;C Web Browser Interface &amp; SNMP</td>
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<tr>
<td>W28</td>
<td>Also allows direct TCP/IP and/or Telnet addressability</td>
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</table>

Connector/Impedance

B - 75Ω BNC (RF In), 75Ω BNC (RF Out)
NN - 50Ω N-type (RF In), 50Ω N-type (RF Out)

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