The 3116-T71-184 Translator converts one of five input RF bands to one of five output RF bands in seven unique combinations. The RF to RF gain is +20 dB, maximum. Connectors are SMA female for the RF Out, RF In and RF In Monitor and BNC female for the external reference input and reference output. Front panel LEDs provide indication of Remote Operation, DC Power, Mute, and PLL Alarm. Gain, band select, and internal/external/Auto reference selection are controlled by front panel switches or remote selection (Ethernet M&C or via the RS-232C/485 Monitor and Control connector) and are viewable on the LCD Display. In AUTO, the 10 MHz reference stays in external if the external level is in the +2 to +8 dBm range. The 3116 is powered by a 100-240 ± 10% VAC power supply, and housed in a 1RU rack mount chassis, 1.75” H X 19.0” W X 19.0” deep.

**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Impedance/Return Loss: 50Ω/12 dB min, 14 dB typ.
- Frequency (GHz): SEE BAND CHART
- Noise Figure, Max.: 20 dB at max. gain (Gmax)
- Input Level range: -30 to -10 dBm
- Non-damage input: 0 dBm at max. gain

**Output Characteristics**
- Impedance/Return Loss: 50 Ω/10 dB min, 14 dB typ.
- Frequency (GHz): SEE BAND CHART
- Output Level Range: -60 to 0 dBm
- Output 1 dB comp.: +8dBm min., at max gain
- Output 0 dBm from 0 dBm unmuted output (RF Mon. not muted)

**Channel Characteristics**
- Gain at Fc: +20 ±3 dB max., (+20 to -40 dB variable in 1±1 dB steps)
- Input to Output Isolation: > 45 dBm, min; (at max gain and 0 dBm output)
- Spurious, Inband: > 40 dBc sig dep, <50dBm sig indep, -10 dBm in, 0 dBm output
- Spurious, Out of band: <50 dBm, signal independent; fc ± 2 GHz
- Spurious, LO: <25 dBm, measured at output, at max gain
- Intermod 2 Tone: > 45 dBc (> 50 dBc typ.), for two carriers at 4 MHz spacing, each at -7 dBm out, Gmax
- Frequency Response: ±2 dB, over RF band; ± 0.5 dB, 40 MHz BW
- Frequency Sensitivity: Non-inverting

**LO Characteristics**
- LO Frequency: Band Specific
- Frequency Accuracy: ± 0.05 ppm max over temp internal reference; ext. ref. input

**Phase Noise @ F (Hz) >**

<table>
<thead>
<tr>
<th>Specification</th>
<th>dBC/Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase Noise @ F (Hz)</td>
<td>-65</td>
</tr>
<tr>
<td>Phase Noise @ F (Hz)</td>
<td>-75</td>
</tr>
<tr>
<td>Phase Noise @ F (Hz)</td>
<td>-80</td>
</tr>
<tr>
<td>Phase Noise @ F (Hz)</td>
<td>-95</td>
</tr>
<tr>
<td>Phase Noise @ F (Hz)</td>
<td>-110</td>
</tr>
</tbody>
</table>

10 MHz level In/Mon Input=+2 ± 3 dBm in; Monitor Output = Input Level ± 1.0 dB, 50 ohms

**Controls, Indicators**
- Gain, Band, 10M Freq.: Direct readout LCD; pushbutton switches or via Ethernet M&C or Monitor and Control Connector.
- PLL Alarm: Red LED, External contact closure
- Remote, Power, Mute: Yellow LED: Green LED: Yellow LED

**Other**
- RF In, Out, Mon. Conn.: SMA (female), 50Ω
- 10 MHz connectors: BNC (female), 50 ohms; Works with 75Ω
- Monitor/Control Conn.: RS232C/485, DB9, Female; Ethernet, RJ45, Female, w/Web Browser & SNMP User interfaces.
- Size: 1RU rack mount chassis, 1.75” H X 19.0” W X 19.0” deep
- Power: 100-240 ±10% VAC, 47-63 Hz, 25 watts max

**Specifications subject to change without notice**