**2083-228 Block Translator, 1650-2150 to 250-750 MHz**

The 2083-228 Block Translator converts a 1650-2150 MHz block (out of a 250-2150 MHz composite spectrum) to 250-750 MHz block with no spectrum inversion, low group delay and flat frequency response. The 1650-2150 MHz input is filtered and translated to the 250-750 MHz block output using dual conversion. The 250-750 MHz block output is AGC’d to a composite output level that can be set for 0 to -10 dBm (AGC to ±2 dB of setting) in 1 dB increments. The output translation can be adjusted by ±10 MHz in 1 MHz increments. In Manual Gain, the gain can be set for +15 to +45 dB, ±2 dB. Multifunction switches select the AGC’d output level, MGC Gain and the translation frequency which appear on the LCD display and can be adjusted remotely. Front panel LEDs provide indication of DC power (green), PLL alarm (red), and remote operation (yellow). Connectors are Type F female for RF input and output. The unit is powered by a 100-240 ±10% VAC, 47-63 HZ input power supply and housed in a 1.75" X 19" X 16" rack mount chassis.

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**EQUIPMENT SPECIFICATIONS**

**Input Characteristics**
- Input Impedance/RL: 75 Ω /12 dB
- Frequency, 1650-2150 MHz
- Input Composite Level: -25 to -45 dBm
- Input, max. no damage: +15 dBm

**Output Characteristics**
- Impedance/RL: 75 Ω /12 dB
- Frequency: 250-750 MHz
- AGC’d Comp. Level: 0 to -10 dBm
- Output 1 dB compression: +10 dBm

**Channel Characteristics**
- AGC Set; MGC Gain: 0 to -10 dBm, ±1 dB, selectable in 1 dB steps; MGC Gain = +15 to +45 dB, ±2 dB
- AGC Response: 5 ± 2 seconds for 10 dB input level change
- Frequency Response: ±2.0 dB, 500 MHz bandwidth; ±0.5 dB, 36 MHz increment
- Spurious, Inband: < -50 dBc in band, signal dependent; < -50 dBm signal independent; see NOTE 1
- Spurious, 0.2-2.2 GHz: < -50 dBm; < -50 dBc, 0.25-2.2 GHz feed through rejection; see NOTE 1
- Group Delay, max.: 0.015 ns/MHz², parabolic, 0.03 ns/MHz, linear, 1 ns ripple, 36 MHz BW
- Frequency Sense: Non-inverting

**Synthesizer Characteristics**
- Frequency Accuracy: ±0.01 ppm
- Reference: 10 MHz Internal
- Frequency Step: 1 MHz; ±10 MHz Translation adjustment

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

<table>
<thead>
<tr>
<th>dBC/Hz</th>
<th>100K</th>
<th>10K</th>
<th>1K</th>
<th>10K</th>
<th>1M</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>-70</td>
<td>-75</td>
<td>-85</td>
<td>-95</td>
<td>-105</td>
</tr>
</tbody>
</table>

**Controls, Indicators**
- Frequency Translation Setting Shown on LCD Display
- Level (AGC), Gain (MGC) Direct readout LCD; manual or remote selection
- Power; Alarm: Remote Green LED; Red LED; Yellow LED
- Remote RS232C, 9600 baud

**Other**
- RF In/RF Out Connector: Type F (female)
- 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.

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**NOTE 1:** dBc is relative to the COMPOSITE Output Level

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**Available Options**

- E - External 10 MHz ref input & output
- M&C Interface RS232 Std.
- RS485 Remote Interface
- W8 - Ethernet M&C Web Browser Interface
- W18 - Ethernet M&C Web Browser Interface and SNMP

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