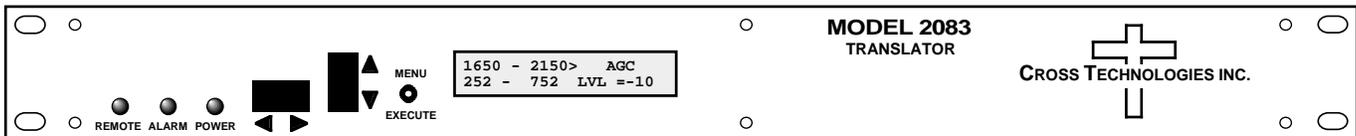


**2083-228 Block Translator, 1650-2150 to 250-750 MHz**

**2083-228 Block Translator** - 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  $\pm 2$  dB of setting) in 1 dB increments. The output translation can be adjusted by  $\pm 10$  MHz in 1 MHz increments. In Manual Gain, the gain can be set for +15 to +45 dB,  $\pm 2$  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  $\pm 10\%$  VAC, 47-63 HZ input power supply and housed in a 1 3/4" X 19" X 16" rack mount chassis.**



**2083-228 Block Translator**

**EQUIPMENT SPECIFICATIONS\***

**Input Characteristics**

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

**Output Characteristics**

Impedance/RL 75  $\Omega$  /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,  $\pm 1$  dB, selectable in 1 dB steps; MGC Gain = +15 to +45 dB,  $\pm 2$  dB  
**AGC Response** 5  $\pm 2$  seconds for 10 dB input level change  
 Frequency Response  $\pm 2.0$  dB, 500 MHz bandwidth;  $\pm 0.5$  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/MHz<sup>2</sup>, parabolic, 0.03ns/MHz, linear, 1 ns ripple, 36 MHz BW  
 Frequency Sense Non-inverting

**Synthesizer Characteristics**

Frequency Accuracy  $\pm 0.01$  ppm  
 Reference 10 MHz Internal  
 Frequency Step 1 MHz;  $\pm 10$  MHz Translation adjustment

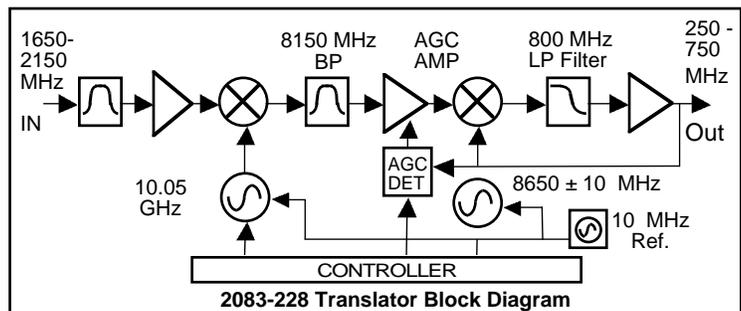
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-70	-75	-85	-95	-105

**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 ( $\pm 10\%$ ) VAC, 47-63 Hz, 30 watts max.



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

**Available Options**

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

**Connector/Impedance**

- B** - 75 $\Omega$  BNC (RF In), 75 $\Omega$  BNC (RF Out)
- D** - 50 $\Omega$  BNC (RF In), 50 $\Omega$  BNC (RF Out)

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