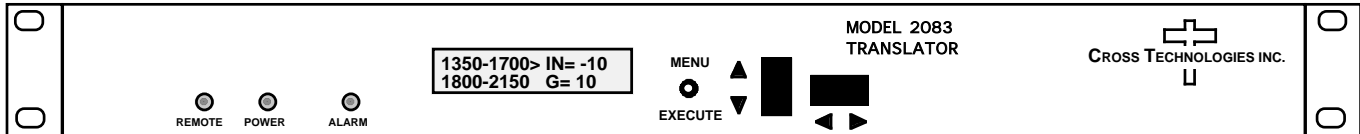


# Series 2083-1721 Agile L to L Translator

**2083-1721 Agile L to L Translator** - The 2083-1721 Agile L to L Translator converts a 1350-1700 MHz block to 1800-2150 MHz block with no spectrum inversion, low group delay and flat frequency response. The 1350-1700 MHz input is mixed with synthesized local oscillator (LO) signals, first to 3100 MHz center frequency and finally to the 1800-2150 MHz block output. Multi-function push button switches select the input level and gain. Frequency translation, input level, and gain (0 to +20 dB, selectable in 1 dB steps) settings appear on the LCD display. Front panel LEDs light when DC power is applied (green) or a PLL alarm occurs (red). Connectors are BNC female for RF input and output and for **(optional)** external 10 MHz reference (+3± 3 dBm in). The 2083-1721 is housed in an 1 3/4" X 19" X 16" deep rack mount chassis. **Option -H** provides a 0.01 ppm reference.



**2083-1721 Agile L to L Translator**

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

Input Impedance/RL 75 Ω/12 dB  
 Frequency, 1350-1700 MHz  
 Input Level -10 to **-30 dBm**  
 Input 1 dB compression 0 dBm

#### Output Characteristics

Impedance/RL 75 Ω/12 dB  
 Output Level, Range -10 to **-30 dBm**  
 Output 1 dB compression 0 dBm  
 Frequency 1800-2150 MHz

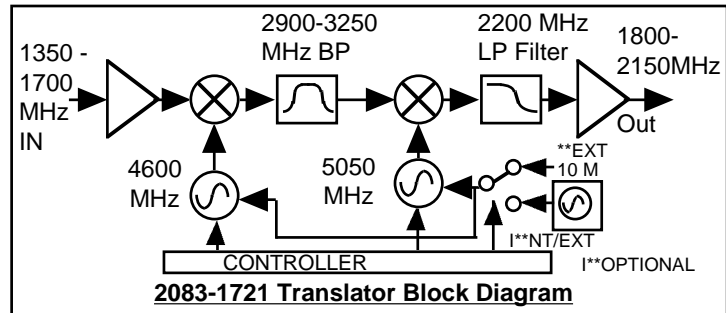
#### Channel Characteristics

Gain 0 to +20 ± 1 dB, selectable in 1 dB steps  
 Frequency Response ± 1.0 dB, 350 MHz bandwidth; ± 0.5 dB, any 36 MHz increment  
 Spurious Response < **-45 dBC** in band ; < **-50 dBm** out of band  
 Group Delay, max 0.01 ns/MHz<sup>2</sup>, parabolic, 0.03ns/MHz, linear, 1 ns ripple any 36 MHz BW  
 Frequency Sense Non-inverting

#### Synthesizer Characteristics

Frequency Accuracy ± 1 ppm max over temp: Optional, High Stability (± 0.01 ppm) Option -H  
 Reference 10 MHz Internal; Internal/External selectable is Option -E

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	<b>-65</b>	<b>-70</b>	<b>-80</b>	<b>-90</b>	<b>-100</b>



**2083-1721 Translator Block Diagram**

#### Controls, Indicators

Frequency Translation Setting shown on LCD display  
 Input Level Selection pushbutton switches; setting shown on LCD display; Set to composite input level  
 Gain Selection pushbutton switches; setting shown on LCD display; Set to 0 to +20 dB (-10 dBm max out)  
 DC Power; PLL Alarm Green LED; Red LED

#### Other

Connectors RF In and Out and (optional) external 10 MHz reference In, BNC, female, 75 ohm  
 Connector, Alarm 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, 30 watts max.

#### OPTIONS

- E External 10 MHz reference In  
 - D BNC, female, 50 ohms for L-Band In and Out  
 - H High Stability (± 0.01 ppm) internal reference

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