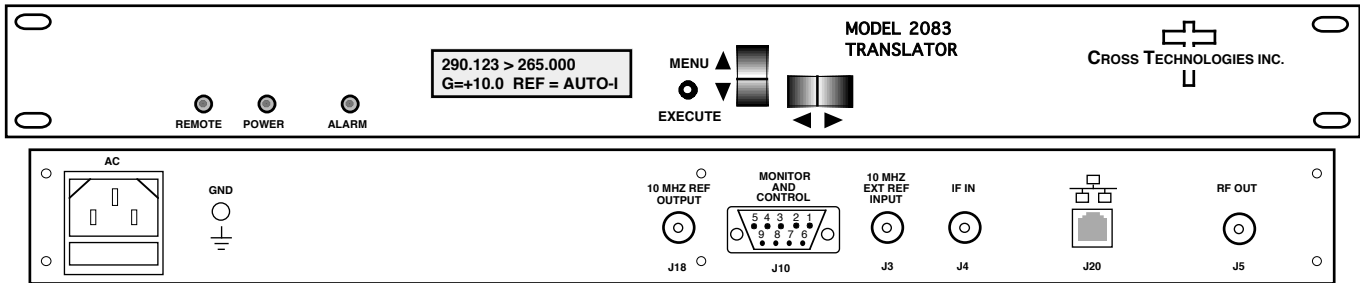


## 2083-0303 Block 290 to 320 Fc ±15 MHz to 240 to 270 Fc ±15 MHz Translator

**2083-0303 Block 290 to 320 Fc ±15 MHz to 240 to 270 Fc ±15 MHz Translator** converts a 290 to 320 Fc ±15 MHz block to 240 to 270 Fc ±15 MHz block in 1 kHz steps with no spectrum inversion and flat frequency response. The 290 to 320 Fc input is mixed with synthesized local oscillator (LO) signals, first to 2400 MHz center frequency and finally to the 240 to 270 ±15 MHz block output. Multi-function switches select the gain and internal or external 10 MHz. The input frequency Fc, output frequency Fc, internal or external reference, and gain (0 to +20 dB, selectable in 0.5 ± 0.5 dB steps) settings appear on the LCD display. Front panel LEDs provide indication of DC power (green), PLL alarm (red), and remote operation (yellow). Remote operation allows setting the input Fc, gain, and 10 MHz reference. Connectors are BNC female for RF input and output and for the external 10 MHz reference (+3± 3 dBm in). It is powered by a 100-240 ±10% VAC, 47-63 Hz input power supply and in a 1 3/4" X 19" X 16" rack mount chassis.



**2083-0303 Front and Rear Panels (Shown with optional Ethernet)**

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

Input Impedance/RL 50Ω /15 dB  
 Frequency 290 to 320 Fc, ±15 MHz  
 Input Level -30 to -10 dBm  
 Noise Figure +18 dB, max., Fc, Gmax

#### Output Characteristics

Impedance/RL 50Ω/15 dB  
 Frequency 240 to 270 Fc, ±15 MHz  
 Output Level, Range -25 to -5 dBm  
 Output 1 dB compr. +5 dBm, Fc, Gmax

#### Channel Characteristics

Gain at Fc 0 to +20 ± 2 dB, adjustable in 0.5 ± 0.5 dB steps  
 Frequency Response ± 1.5 dB, Fc 290 to 320 MHz; ± 0.5 dB, Fc ±15 MHz; Gmax  
 Spurious, In band >40 dBc signal dependent or independent at -5 dBm out, Gmax  
 Spurious, Out of band <-40 dBm, 100 - 224 MHz and 286 - 500 MHz, Gmax  
 Frequency Sense Non-inverting

#### Synthesizer Characteristics

Frequency Accuracy ± 0.01 ppm max over temp  
 Reference 10 MHz Internal; Internal/External  
 Frequency Step LO1, LO2, 1 kHz

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-85	-90	-90	-100	-115

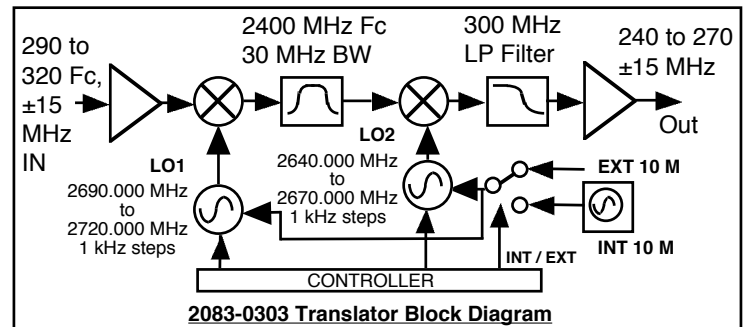
10 MHz Level (In or Out) 3 dBm, ± 3 dB, 50 ohms

#### Controls, Indicators

Gain Selection direct readout LCD; manual or remote selection  
 Pwr; Alarm; Rem; Green LED; Red LED; Yellow LED  
 Remote RS232C, 9600 baud (**RS485, Ethernet Optional**)

#### Other

RF In/RF Out Conn. BNC (female), 50Ω  
 10 MHz Conn. (In & Out) BNC (female), 50Ω  
 Alarm/Remote Conn. 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.



**2083-0303 Translator Block Diagram**

#### Available Options

W31 0 to +50 degrees C operation  
**Comm. Interface/Standard RS232**  
 Q - RS485 Remote Interface  
 W8 - Ethernet; w/Web Browser (WB)  
 W18 - Ethernet; w/WB & SNMP  
 W28 - Ethernet; w/TCP/IP, Telnet  
 W828 - W8 +W18 +W28

#### Connectors/Impedance

Std. - 50Ω BNC (RF IN), 50Ω BNC (RF OUT)  
 NN - 50Ω N (RF IN), 50Ω N (RF OUT)  
 SS - 50Ω SMA (RF IN), 50Ω SMA (RF OUT)  
**Contact Cross for other options**

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