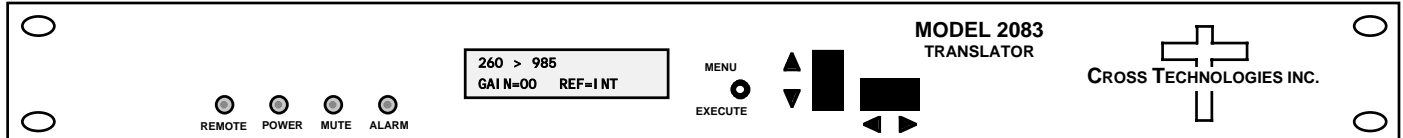


2083-22 Translator

The **2083-22** Frequency Translator converts **225-295 MHz** to **950-1020 MHz** with no spectrum inversion, low group delay, and flat frequency response. The input signal is mixed with synthesized local oscillator (LO) signals, first to 1750 MHz and finally to the output signal. Multifunction push button switches select the gain (-10 to +30 dB, adjustable), and 10 MHz reference. These settings appear on the LCD display. Front panel LEDs light when DC power is applied (green), a PLL alarm occurs (red), the signal is muted (yellow), or remote control is active (yellow). A 10 MHz input allows for connection of an external 10 MHz reference. The 10 MHz output contains the 10 MHz reference signal (be it internal or external). Connectors are BNC female for the input, output, 10 MHz input, and 10 MHz output. The 2083-22 is housed in a 1 3/4" X 19" X 16" deep rack mount chassis. Option -H provides a ± 0.01 ppm high stability reference.



2083-22 Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Input Impedance/RL 50Ω /14 dB
 Frequency **225 to 295 MHz**
 Input Level -40 to -10 dBm
 Input 1 dB compression 0 dBm

Output Characteristics

Impedance/RL 50Ω/12 dB
 Frequency **950 to 1020 MHz**
 Output level 0 to -20 dBm
 Output 1 dB comp. +5 dBm

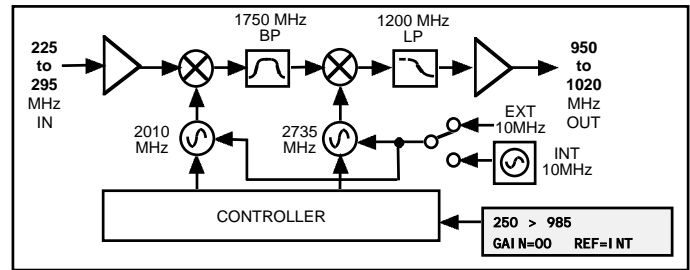
Channel Characteristics

Gain, adjustable -10 to +30 dB, 1dB steps
 Spurious Response <-50 dBC
 Bandwidth **±35MHz, ±0.7dB**
 Group Delay, max **0.0035 ns/MHz²** parabolic; **0.03 ns/MHz** linear; 1 ns ripple
 10MHz In/Out Level 3 dB ± 3 dB
 Frequency Sense Non-inverting

Synthesizer Characteristics

Frequency Accuracy ± 1.0 ppm internal reference (± 0.01 ppm **option -H**)

Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-70	-70	-80	-95	-110



2083-22 Block Diagram

Controls, Indicators

Frequency Translation Direct readout LCD display
 Gain Selection Direct readout LCD display; push-button switches or remote selection
 Power; Alarm; Mute Green LED; Red LED; Yellow LED
 Remote Yellow LED; RS232C, 9600 baud

Other

Input/Output Connectors BNC (female), 50 Ω
 10MHz Connectors BNC (female), 50/75 Ω
 Alarm Connector DB9 - 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, 45 watts max.

Options

- H High Stability, ± 0.01 ppm internal reference

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