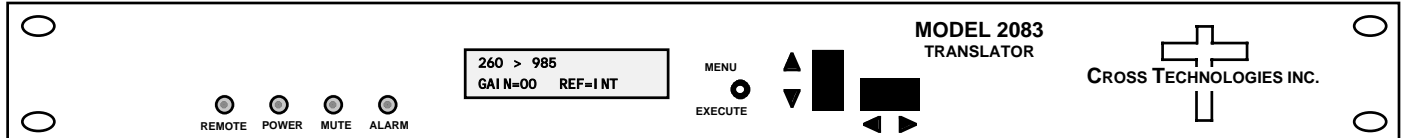


2083-22 Translator

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

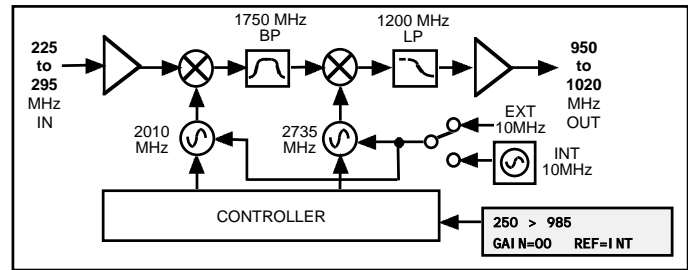
Channel Characteristics

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

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