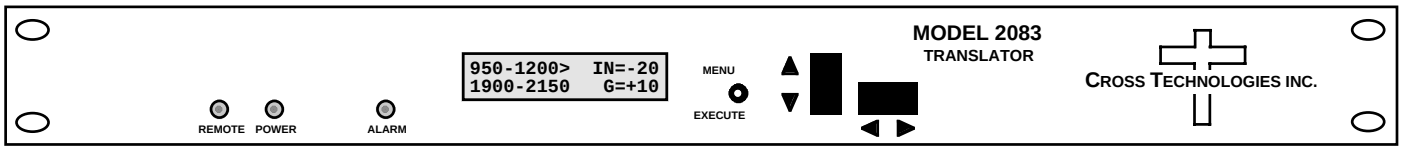
CROSS TECHNOLOGIES, INC.

DATA SHEET

06/04/2007

2083-1222 Agile L-Band to L-Band Translator

The 2083-1222 Agile L-Band to L-Band Translator converts a 950-1200 MHz block to 1650-1900 MHz or 1900-2150 MHz block (selectable) with spectrum inversion, low group delay and flat frequency response. The 950-1200 MHz input is mixed with synthesized local oscillator (LO) of 2850 MHz to 1650-1900 MHz or with an LO signal of 3100 MHz to1900-2150 MHz output. Multi-function push button switches select the translation, 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 indicate DC power (green), remote control (yellow), or a PLL alarm (red). Connectors are BNC female for RF input and output and for optional external 10 MHz reference (+3± 3 dBm in, option E). The 2083-1222 Translator is housed in an 1 3/4" X 19 " X 16" deep rack mount chassis. Option H provides a ±0.01 ppm reference.



Front Panel

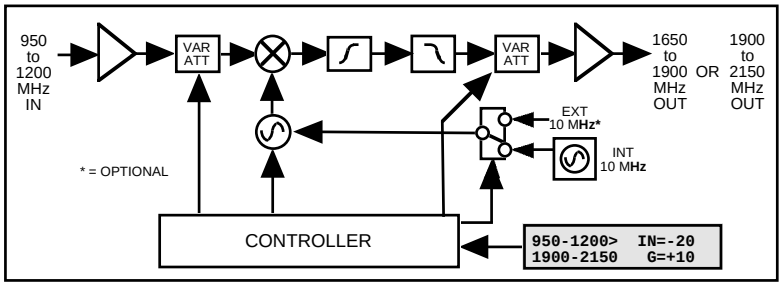
EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance/Return Loss	75Ω / 12 dB
Frequency	950-1200 MHz
Input Level	-30 to -10 dBm

Output Characteristics

Impedance/Return Loss	75Ω / 12 dB
Frequency	1650-1900 MHz OR 1900-2150 MHz
Output level	-30 to -10 dBm



Block Diagram

Channel Characteristics

Gain range (adjustable)	0 to +20 dB, selectable in 1 dB steps
Frequency Response	±1.0 dB, 250 MHz BW, ±0.5 dB, any 36 MHz increment
Intermodulation	< -50 dBm for two carriers each at -13 dBm out
Spurious Response	< -60 dBm in band; < -50 dBm out of band < -40 dBC, .95-1.2 GHz out; < -45 dBC, 1.65-2.15 GHz out; < -50 dBm, LO out
Group Delay, max	0.01 ns/MHz^2 parabolic; 0.03 ns/MHz linear; 1 ns ripple - any 36MHz BW
Frequency Sense	Inverting

Synthesizer Characteristics

Frequency Accuracy	± 1.0 ppm internal reference (±0.01 ppm, option H)					
10 MHz In/Out Level	3 dBm ± 3 dB (option E)					
Phase Noise	@ Freq	100Hz	1kHz	10kHz	100kHz	1MHz
	dBC/Hz	< -65	< -75	< -85	< -95	< -110

Controls, Indicators

Frequency Selection	direct readout LCD; pushbutton switches or remote selection; Set for low or high block
Input Level Selection	direct readout LCD; pushbutton switches or remote selection; Set to composite input level
Gain Selection	direct readout LCD; pushbutton switches or remote selection; Set to 0 to +20 dB (-10 dBm max output level)
Power; Alarm; Remote	Green LED; Red LED; Yellow LED
Remote	RS232C, 9600 baud (RS485, option Q)

Other

RF Connectors	BNC (female)
10MHz Connectors	BNC (female) 50Ω/75Ω (option E)
Alarm/Remote Connector	DB9 - NO or NC contact closure on Alarm
Size	19 inch, 1RU standard chassis 1.75"high X 16.0" deep
Power	100-240 ± 10% VAC, 47-63 Hz, 45 watts max

Available Options

E - External 10 MHz ref input & output
H - High Stability (±0.01ppm) int ref
Q - RS485 Remote Interface

Connectors/Impedance
D - 50Ω BNC (In), 50Ω BNC (Out)

*10˚C to 40˚C; Specifications subject to change without notice

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