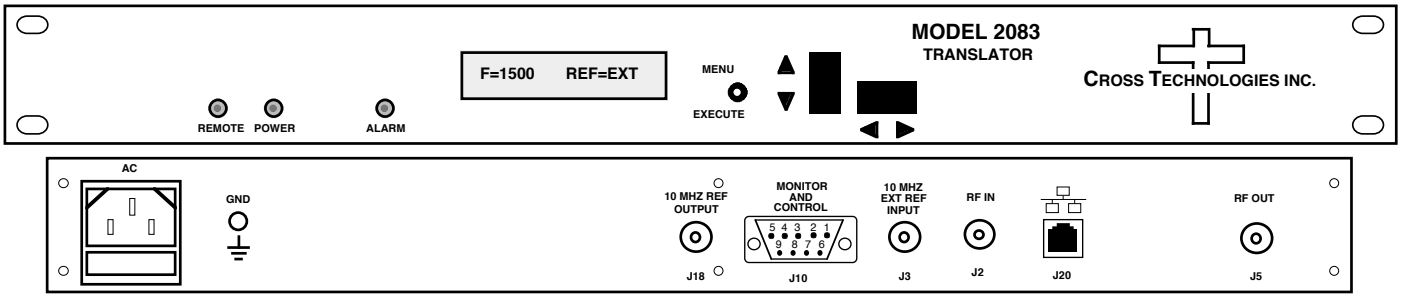
CROSS TECHNOLOGIES, INC.

DATA SHEET
Rev. A
10/31/18

2083-1515 Channel Translator, 0.95 - 1.50 GHz to 0.95 - 1.50 GHz

The 2083-1515 Channel Translator converts a 10 MHz Channel in the 950 to 1500 MHz input band at the same center frequency in the 950 to 1500 MHz output band in 1 MHz steps **which functions as a tunable bandpass filter.** A synthesized local oscillator (LO) provides the frequency selection. Push button switches select the RF frequency and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), and remote operation (yellow). The gain is +0 dB. Remote operation allows selection of the frequency. Parameter selection and frequency settings appear on the LCD display. Connectors are BNC female for the RF In and RF Out and the optional external reference input and output. **The external 10 MHz option E** includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal. A high stability **option H** (±0.01ppm) is also available. The unit is powered by a 100-240 ± 10% VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.



2083-1515 Front and Rear Panels **(From SN 116 and Up)**

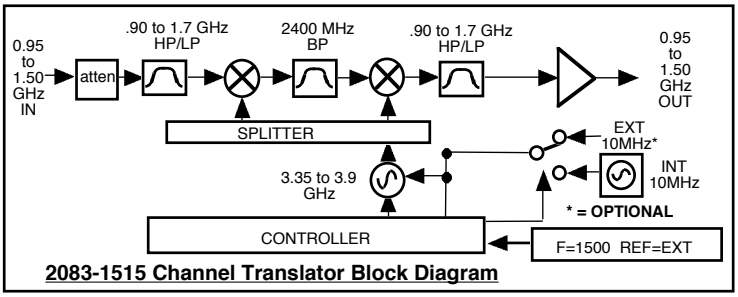
EQUIPMENT SPECIFICATIONS*

Input Characteristics (IF)

Impedance/Return Loss	50Ω /12 dB
Frequency	950 to 1500 MHZ
Noise Figure	25 dB max
Input Level	**-55 to -15 dBm, -65 goal**
Input 1 dB comp.	**-5 dBm**

Output Characteristics (RF)

Impedance/Return Loss	50 Ω/12 dB
Frequency	950 to 1500 MHz
Output level	-55 to -15 dBm
Output 1 dB comp.	-5 dBm



2083-1515 Channel Translator Block Diagram

Channel Characteristics

Gain, fixed	**0.0 ± 2 dB at 1.2 GHz**
Frequency Response	±1.5 dB, 950 - 1500 MHz; **± 0.5 dB, 10 MHz BW; ±1.5 dB, 20 MHz BW; <40 dBC, at ± 50 MHz**
Spurious, In band	**< -45 dBC, in band; <-40 dBC of the 950-1500 input band to the output**
Spurious, Out of Band	**<-50 dBm (.25-.94 GHz and 1.51-2.2 GHz Out)**
Group Delay, max	**0.03** ns/MHz^2 parabolic; **0.1** ns/MHz linear; 1 ns ripple, **10 MHz bandwidth**
Frequency Sense	Non-inverting

Synthesizer Characteristics

Frequency Accuracy	± 1.0 ppm max over temp (±0.01 ppm, option **H**)
Frequency Step	1.0 MHz **(125 kHz to 1 kHz step options available)**

Phase Noise @ F (Hz) >	*10*	*100*	*1K*	*10K*	*100K*	*1M*
Standard-1 MHz steps: dBC/Hz	***-55***	***-70***	***-70***	*-80*	*-90*	*-110*

10 MHz Level (In or Out)	3 dBm, ± 3 dB, 75 ohms (option **E**)

Controls, Indicators

Freq 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 Connectors	BNC (female)
10 MHz Connectors	BNC (female)**, 75Ω, works with 50 or 75 ohms** (option **E**)
Alarm/Remote Connector	DB9 (female) - NO or NC contact closure on Alarm
Size	19 inch, 1RU standard chassis 1.75" H X 16.0" D
Power	100-240 ±10% VAC, 47-63 Hz, **25** W max. **(24 , 48 VDC Optional)**

Available Options

E - External 10 MHz ref in & out; RF Ins.
H - High Stability (±0.01ppm) Internal Ref
X or X1- 125 kHz or 100 kHz step size

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

Connectors/Impedance (In & Out)

Std. - 50Ω BNC
B - 75Ω BNC
F - 75Ω Type F
N N- 50Ω N-type

Contact Cross for other options

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

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