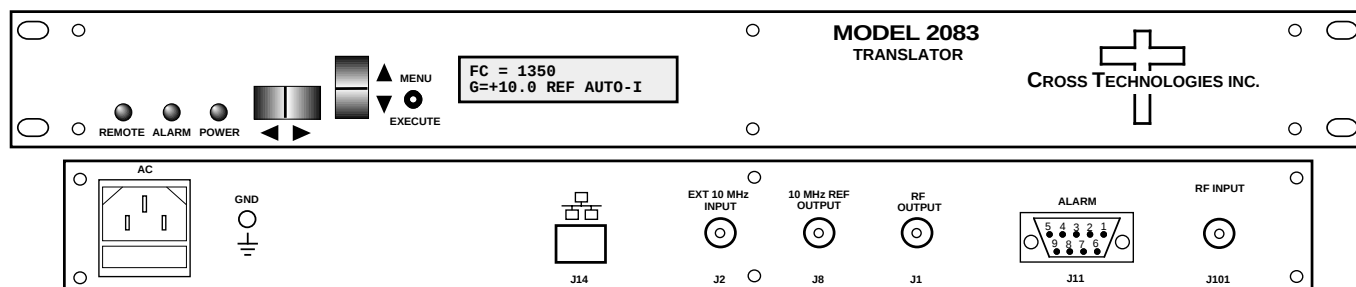


2083-1919-02 Translator, 0.95 to 1.95 GHz, ± 250 MHz, Spectrum Inverter

2083-1919-02 Block Translator - The 2083-1919-02 Block Translator works from 0.95 to 1.95 GHz and has three operating modes:

- 1) **Tracking** - Provides a ± 250 MHz block inverted spectrum with $F_{in} = F_{out}$.
- 2) **Independent** - Provides a ± 250 MHz block inverted spectrum with F_{in} and F_{out} tuned independently.
- 3) **Bypass** - Provides a non-inverted pass through of the entire 0.95 to 1.95 GHz band with gain control.

The 0.95-1.95 GHz input is mixed, first to a ± 250 MHz block at F_1 center frequency with a low side LO ($F_1 - F_{in}$), and then to a ± 250 MHz block with a high side LO ($F_1 + F_{in}$) which provides spectrum inversion. The **Tracking** and **Independent** modes function as shown above. In **Bypass** mode the entire 0.95 to 1.95 GHz band is just amplified. The gain range is 0 to +30 dB in 0.5 ± 0.5 dB steps. Tuning of F_{in} and F_{out} is in 1 MHz steps from 1.2 - 1.7 GHz. Multifunction switches select the Gain, F_{in} and F_{out} frequencies and internal or External 10 MHz reference which appear on the LCD display and can be adjusted remotely. Front panel LEDs provide indication of DC power (green), PLL alarm (red), and remote operation (yellow). Connectors are **Type F female** for RF input and output. The unit is powered by a 100-240 $\pm 10\%$ VAC, 47-63 Hz input power supply and housed in a 1 3/4" X 19" X 16" rack mount chassis.



2083-1919-02 Front & Rear Panels (shown with optional Ethernet)

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Input Impedance/RL 75 Ω /12 dB
 Frequency 950 - 1950 MHz
 Input **Composite** Level -50 to -30 dBm
 Input, max. no damage +10 dBm

Output Characteristics

Impedance/RL 75 Ω /12 dB
 Frequency $F_c = 1.2 - 1.7$ GHz, ± 250 MHz
 Output **Composite** Level -40 to -20 dBm
 Output 1 dB compression -10 dBm, at max gain

Channel Characteristics

Gain 0 to +30 dB, ± 2 dB, selectable in 0.5 ± 0.5 dB steps, at F_c
 Frequency Response ± 2.0 dB, ± 0.25 GHz bandwidth; ± 0.5 dB, any 40 MHz increment
 Spurious, Inband < -50 dBc in band, signal dependent and signal independent; See NOTE 1
 Spurious, out of band < -30 dBc, 0.5- 0.94 GHz and 1.96-2.5 GHz; See NOTE 1
 Frequency Sense Inverting

Synthesizer Characteristics

Translation; Accuracy ± 0.01 ppm
 Reference 10 MHz Internal; Internal/ External selection
 Frequency Step 1 MHz; $F_{in} = F_{out}$ Center frequency adjustment, 1.2-1.7 GHz

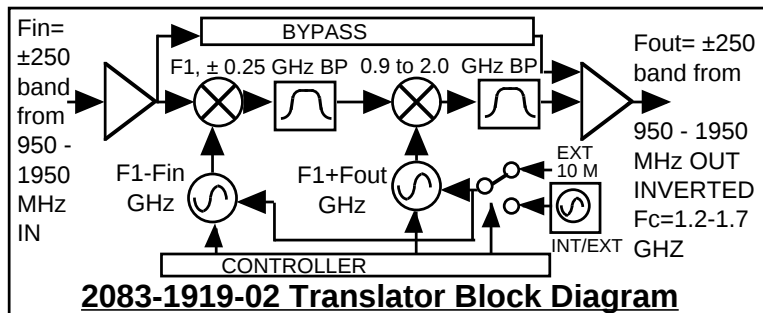
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	-70	-70	-80	-90	-100

Controls, Indicators

Frequency Translation Direct readout LCD; manual or remote selection
 Gain (MGC) Direct readout LCD; manual or remote selection
 Power; Alarm; Remote Green LED; Red LED; Yellow LED
 Remote RS232C, 9600 baud ; **RS485, Ethernet Optional**

Other

RF In/RF Out Connector **Type F (female)**
 Alarm/Remote Connector DB9 (female) - 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, 30 watts max.



2083-1919-02 Translator Block Diagram

NOTE 1: dBc is relative to the COMPOSITE Output Level

Available Options

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

B - 75 Ω BNC (RF IN), 75 Ω BNC (RF OUT)
 D - 50 Ω BNC (RF IN), 50 Ω BNC (RF OUT)
 NN - 50 Ω N (RF IN), 50 Ω N (RF OUT)

Contact Cross for other options

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

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