CROSS TECHNOLOGIES, INC.

DATA SHEET

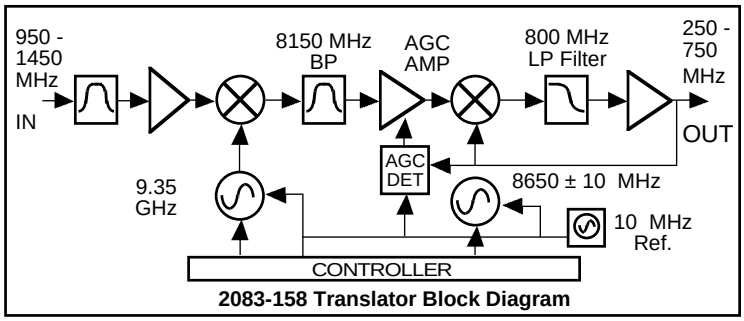
02/11/15 REV. D

2083-158 Block Translator, 950-1450 to 250-750 MHz

2083-158 Block Translator - The 2083-158 Block Translator converts a 950-1450 MHz block (out of a 250-2150 MHz composite spectrum) to 250-750 MHz block with no spectrum inversion, low group delay and flat frequency response. The 950-1450 MHz input is filtered and translated to the 250-750 MHz block output using dual conversion. The 250-750 MHz block output is **AGC'd to a composite output level that can be set for 0 to -10 dBm (AGC to ± 2 dB of setting) in 1 dB increments. The output translation can be adjusted by ± 10 MHz in 1 MHz increments. In Manual Gain, the gain can be set for +15 to +45 dB, ± 2 dB. Multifunction switches select the AGC'd output level, MGC Gain** and the translation frequency 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 ±10% VAC, 47-63 HZ input power supply and housed in a 1 3/4" X 19" X 16" rack mount chassis.

2083-158 Block Translator

EQUIPMENT SPECIFICATIONS*



2083-158 Translator Block Diagram

Input Characteristics	
Input Impedance/RL	75Ω /12 dB
Frequency	950 - 1450 MHz
Input **Composite** Level	-25 to **-45 dBm**
Input, max. no damage	+15 dBm
Output Characteristics	
Impedance/RL	75Ω/12 dB
Frequency	250 - 750 MHz
AGC'd Comp. Level	**0 to -10 dBm**
Output 1 dB compression	+10 dBm

Channel Characteristics	
AGC Set; MGC Gain	**0 to -10 dBm, ± 1 dB, selectable in 1 dB steps; MGC Gain = +15 to +45 dB, ± 2 dB**
AGC Response	**5 ± 2 seconds for 10 dB input level change**
Frequency Response	**± 2.0 dB,** 500 MHz bandwidth; ± 0.5 dB, 36 MHz increment
Spurious, Inband	**< -50 dBC** in band, signal dependent; <**-50 dBm** signal independent**; See NOTE 1**
Spurious, 0.2- 2.2 GHz	**< -50 dBm; < -50 dBC, 0.25-2.2 GHz feed through rejection; See NOTE 1**
Group Delay, max.	**0.015** ns/MHz^2, parabolic, 0.03ns/MHz, linear, 1 ns ripple, 36 MHz BW
Frequency Sense	Non-inverting
Synthesizer Characteristics	
Frequency Accuracy	**±0.01 ppm**
Reference	10 MHz Internal
Frequency Step	**1 MHz; ± 10 MHz Translation adjustment**

NOTE 1: dBc is relative to the COMPOSITE Output Level

Phase Noise @ F (Hz) >	*100*	*1K*	*10K*	*100K*	*1M*
dBC/Hz	***-70***	***-75***	***-85***	***-95***	***-105***

Controls, Indicators	
Frequency Translation	Setting Shown on LCD Display
Level (AGC), Gain (MGC)	Direct readout LCD; manual or remote selection
Power; Alarm; Remote	Green LED; Red LED; Yellow LED
Remote	RS232C, 9600 baud
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 (±10%) VAC, 47-63 Hz, 30 watts max.

Available Options

E - External 10 MHz Reference input & output M&C Interface RS232 Std.

Q - RS485 Remote Interface

W8 - Ethernet M&C Web Browser Interface

W18 - Ethernet M&C Web Browser Interface and SNMP

Connector/Impedance

B - 75Ω BNC (RF In), 75Ω BNC (RF Out)

D - 50Ω BNC (RF In), 50Ω BNC (RF Out)

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

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