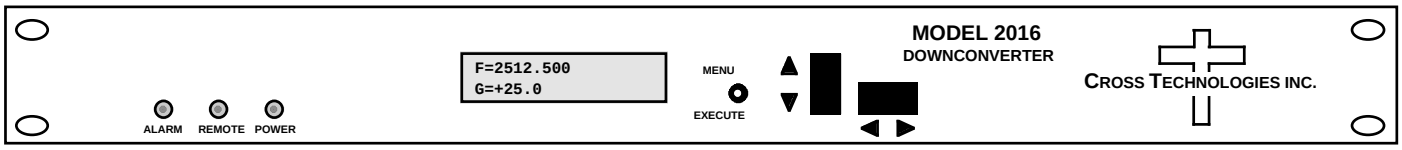
CROSS TECHNOLOGIES, INC.

DATA SHEET

06/01/2007

2016-1251 Fixed Frequency Downconverter, 2.5125 GHz

The 2016-1251 S-band Downconverter converts 2.5125 GHz (±36 MHz) fixed to 140 (± 36) MHz with low group delay and flat frequency response. Synthesized local oscillators (LO) provide very low phase noise and ±0.01 ppm stability frequency selection. Multi-function push button switches select the gain, and other variable parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), remote operation (yellow) or the TX carrier is muted (yellow). Gain is adjustable manually over a 0 to +50 dB range as adjusted by the front panel multi-function push-button switches. Remote operation allows selection of gain and other variable parameters. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are Type N (female) for the RF input and BNC (female) for IF output and optional external reference input / output. The External 10 MHz reference Option also includes a 10 MHz output connector, which provides the selected (internal or external) 10 MHz reference signal output. The unit is powered by a 90-260 VAC power supply, and housed in a 1 3/4" X 19 " X 16" rack mount chassis.



Front Panel

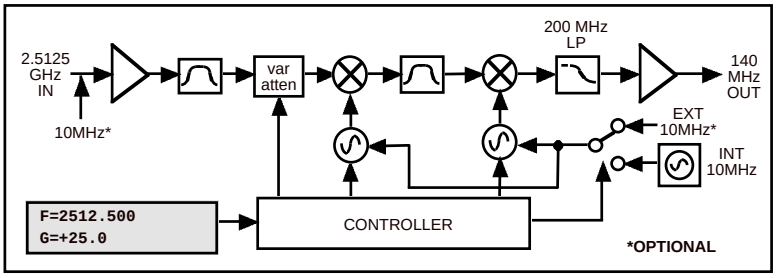
EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss	50Ω /12 dB
Frequency	2.5125 GHz (±36 MHz) Fixed
Input Level Range	-70 to -20 dBm
Input 1dB compression	-15 dBm

Output Characteristics (IF)

Impedance/Return Loss	75Ω/18 dB
Frequency	140 ± 36 MHz
Output level/max linear	-20dBm / -10dBm
Output 1 dB compression	-5 dBm



Block Diagram

Channel Characteristics

Gain range (adjustable)	0.0 to +50.0 dB
Image Rejection	> 50 dB, min.
Frequency Response	2.5125 GHz ; ± 0.5 dB, 72 MHz BW
Spurious Response	< -60 dBc, in band, typical; -55 dBc max.
Group Delay, max	0.0035 ns/MHz^2 parabolic; 0.025 ns/MHz linear; 1 ns ripple
Frequency Sense	Inverting or Non-inverting (selectable)

Synthesizer Characteristics

Frequency Accuracy	± .01 ppm internal reference						
Frequency Step	None; Fixed Frequency, non-tunable						
10 MHz In/Out Level	3 dBm ± 3 dB (option E)						
Phase Noise	@ Freq	10Hz	100Hz	1kHz	10kHz	100kHz	1MHz
	dBC/Hz	<-65	< -77	< -82	< -90	< -102	< -110

Controls, Indicators

Freq/Gain Selection	direct readout LCD; manual or remote selection
Pwr; Alarm; Remote	Green LED; Red LED; Yellow LED
Remote	RS232C, 9600 baud (RS485, option Q)

Other

RF Connector	N-type (female)
IF Connector	BNC (female)
10MHz Connectors	BNC (female) 50Ω/75Ω (option E)
Alarm/Remote Connector	DB9 (female) - NO or NC contact closure on Alarm
Size	19 inch, 1RU standard chassis 1.75"high X 16.0" deep
Power	90-260 VAC, 47-63 Hz, 45 W max

Available Options

E - External 10 MHz ref input & output
Q - RS485 Remote Interface
O - LO Adjust

Connectors/Impedance
B - 75Ω BNC (RF), 75Ω BNC (IF)
C - 50Ω BNC (RF), 75Ω BNC (IF)
D - 50Ω BNC (RF), 50Ω BNC (IF)
M - 50Ω N-type (RF), 50Ω BNC (IF)

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