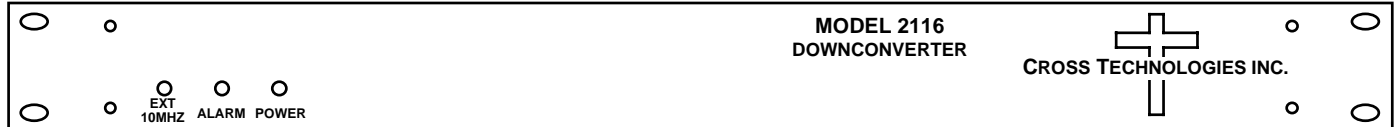


2116-139 Block Downconverter, 13.95 to 14.45 GHz

The 2116-139 Block Downconverter converts 13.95 - 14.45 GHz to 1.20 - 1.70 GHz with low phase noise and flat frequency response. Frequency translation is via a 12.75 GHz local oscillator. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +35 dB. Connectors are SMA female for the RF and BNC female for the L-Band and external reference input and reference output. A three-way switch controls which 10 MHz reference is being used. In the INT position, the internal reference is used, in the EXT position, the external reference is used, and in the AUTO position, the internal reference is used unless a 3 dBm ± 3 dB, 10MHz reference signal is connected to the external reference input. The 2116 is powered by a 90-260 VAC power supply, and housed in a 1 3/4" X 19" X 14" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance/Return Loss	50Ω / 14 dB
Frequency	13.95 to 14.45 GHz
Noise Figure, Max.	20 dB max gain
Output Level Range	-55 to -35 dBm
Output 1 dB compression	-25 dBm

Output Characteristics

Impedance/Return Loss	50Ω / 14 dB
Frequency	1.20 to 1.70 GHz
Input Level range	-20 to 0 dBm
Input 1 dB compression	+10 dBm

Channel Characteristics

Gain	+35 dB ± 2 dB
Image Rejection	> 60 dB, min
Spurious, Inband	SIGNAL RELATED < -60 dBC in band, 0 dBm out; SIGNAL INDEPENDENT, < -60 dBm
Spurious, Out of band	LO < -70 dBm
Intermodulation	< -55 dBC for two carriers each at -10 dBm out
Frequency Response	±1.5 dB, 1.20 - 1.70 GHz out; ± 0.5 dB, 40 MHz BW
Frequency Sense	Non-inverting

LO Characteristics

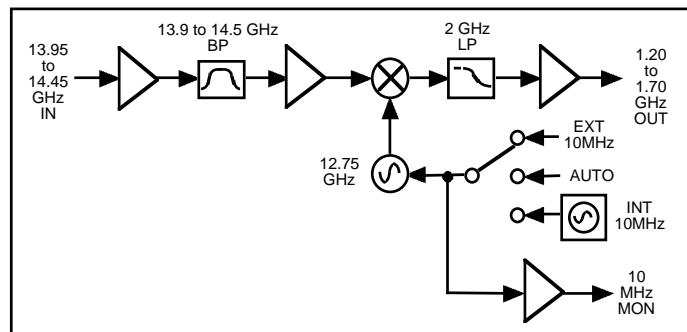
LO Frequency	12.75 GHz
Frequency Accuracy	± 0.01 ppm max over temp internal reference; external reference input
10 MHz In/Out Level	3 dBm ± 3 dB
Phase Noise	@ Freq 100Hz 1kHz 10kHz 100kHz 1MHz
	dBC/Hz < -65 < -80 < -85 < -100 < -110

Controls, Indicators

Power	Green LED
PLL Alarm	Red LED, External contact closure
Ext 10 MHz	Yellow LED, indicates external 10 MHz reference selected (rear panel DPDT switch)

Other

RF Connector	SMA (female), 50Ω
L-Band Connector	BNC (female), 50Ω (BNC, 75Ω; Type-F, 75Ω; Type-N, 50Ω optional)
10 MHz Connectors	BNC (female), 50Ω/75Ω
Alarm Connector	DB9 - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.75" high X 14.0" deep
Power	90 - 260 VAC, 47 - 63 Hz, 45 watts max.



Block Diagram

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