CROSS TECHNOLOGIES, INC.

DATA SHEET

11/07/2006

2116-105 Block Downconverter, 10.55 - 11.70 GHz to 0.95 - 2.10 GHz

The 2116-105 Downconverter converts 10.55 - 11.70 GHz to 0.95 - 2.10 GHz with a local oscillator at 9.6 GHz. 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 mounted in a 1 3/4" X 19 " X 14" rack mount chassis.

Front Panel

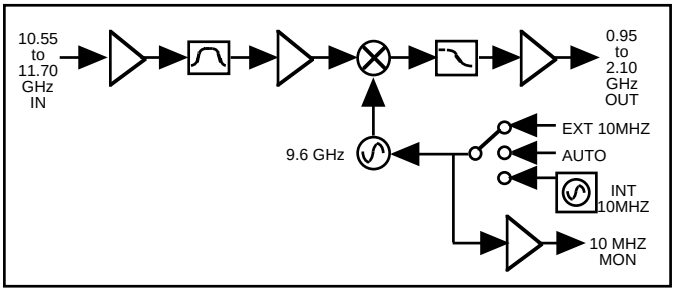
EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss	50Ω/14 dB
Frequency	10.55 to 11.70 GHz
Noise Figure, Max.	20 dB max gain
Level	-55 to -35 dBm
1dB Compression	-25 dBm

Output Characteristics (IF/L-Band)

Impedance/Return Loss	50Ω /14 dB
Frequency	0.95 to 2.10 GHz
Level	-20 to 0 dBm
1dB Compression	+10 dBm



Block Diagram

Channel Characteristics

Gain	+35 dB ±2 dB
Image Rejection	> 60 dB, min
Spurious, In Band	SIGNAL RELATED<-60 dBC in band, 0 dBm out; SIGNAL INDEPENDENT,<-60 dBm
Spurious, Out of Band	<-50 dBm
Intermodulation	<-55 dBC for two carriers each at -10 dBm out
Frequency Response	±1.5 dB, 950 - 2100 MHz out; ± 0.5 dB, 40 MHz BW
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	9.6 GHz
Frequency Accuracy	± 0.01 ppm max over temp internal reference; ext. ref. input
10 MHz level In/Out	+3 dBm ± 3 dB

Phase Noise

@ Freq	100Hz	1kHz	10kHz	100kHz	1MHz
dBC/Hz	< -70	< -80	< -85	< -100	< -110

Controls, Indicators

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

Other

RF Connector	SMA (female)
IF Connector	BNC (female)
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.

Available Options

Connectors/Impedance
FN - 50Ω N-type (RF), 75Ω F-type (IF)
M - 50Ω N-type (RF), 50Ω BNC (IF)
N - 50Ω N-type (RF), 75Ω BNC (IF)
NN - 50Ω N-type (RF), 50Ω N-type (IF)
NS - 50Ω SMA (RF), 50Ω N-type (IF)

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

Request A Quote