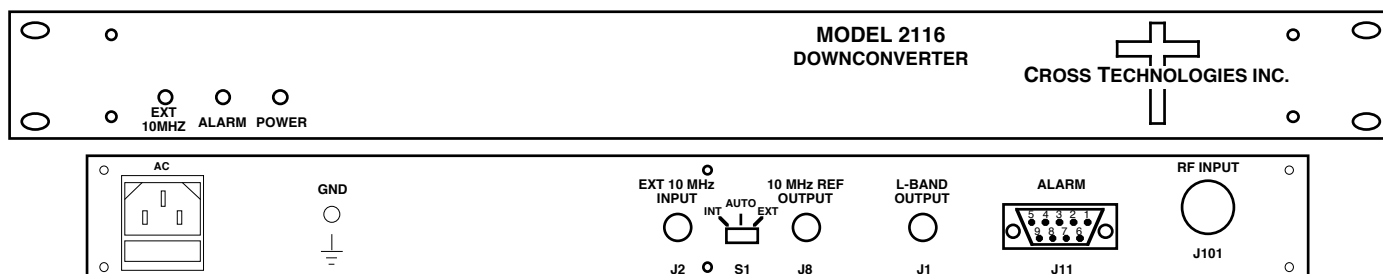


2116-8485-2223 Block Downconverter, 8.40 - 8.50 GHz to 2.20 - 2.30 GHz

The 2116-8485-2223 Block Downconverter converts 8.40 - 8.50 GHz to 2.20 - 2.30 GHz (non-inverted) with a 6.20 GHz local oscillator. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +35 dB. Connectors are Type N 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 $\pm$ 3 dB, 10MHz signal is connected to the external reference input. The 2116 is powered by a 100-240 $\pm$ 10%VAC power supply, and mounted in a 1 3/4" X 19" X 14" rack mount chassis.



EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss	50 Ω /14 dB
Frequency	8.40 to 8.50 GHz
Noise Figure, Max.	15 dB max gain
Input Level range	-55 to -35 dBm
Input 1 dB compression	-25 dBm

Output Characteristics

Impedance/Return Loss	50 Ω /14 dB
Frequency	2.20 to 2.30 GHz
Output Level Range	-20 to 0 dBm
Output 1 dB compression	+10 dBm

Channel Characteristics

Gain	+35 dB $\pm$ 2 dB
Image Rejection	> 60 dB, min
Spurious, In Band	SIGNAL RELATED <-60 dBc in band, 0 dBm out; SIGNAL INDEPENDENT, <-60 dBm (2.20-2.30 GHz Out)
Spurious, Out of Band	<-50 dBm (1.5-2.19 GHz and 2.31-3.0 GHz Out)
Intermodulation	<-55 dBc for two carriers at $F_c \pm 2$ MHz, each at -10 dBm out
Frequency Response	± 1.5 dB, 2.20 to 2.30 GHz out; ± 0.5 dB, 40 MHz BW
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	6.20 GHz
Frequency Accuracy	± 0.01 ppm max over temp internal reference; ext. ref. input
10 MHz In/Out Level	3 dBm, ± 3 dB

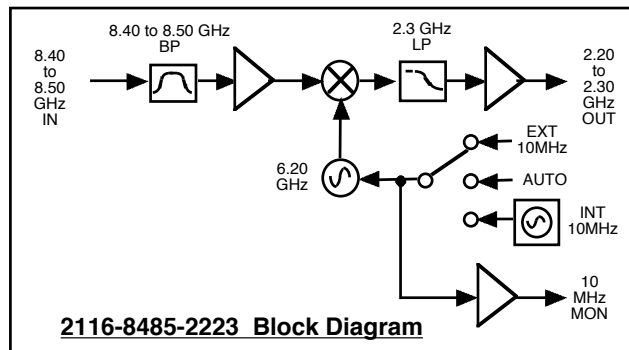
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBc/Hz	-70	-80	-85	-100	-120

Controls, Indicators

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

Other

RF, L-band Connector	N-type (female), 50 Ω , BNC (female), 50 Ω
10 MHz Connectors	BNC (female), 50 Ω /75 Ω
Alarm Connector	DB9 - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.7" high X 14.0" deep
Power	100 - 240 $\pm$ 10% VAC, 47 - 63 Hz, 25 watts max.



Available Connector Options-

N - 50 Ω N-type (RF), 75 Ω BNC (L-BAND)
NN - 50 Ω N-type (RF), 50 Ω N-type (L-BAND)
S7 - 50 Ω SMA (RF), 75 Ω BNC (L-BAND)
SN - 50 Ω SMA (RF), 50 Ω N-type (L-BAND)
SS - 50 Ω SMA (RF), 50 Ω SMA (L-BAND)

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