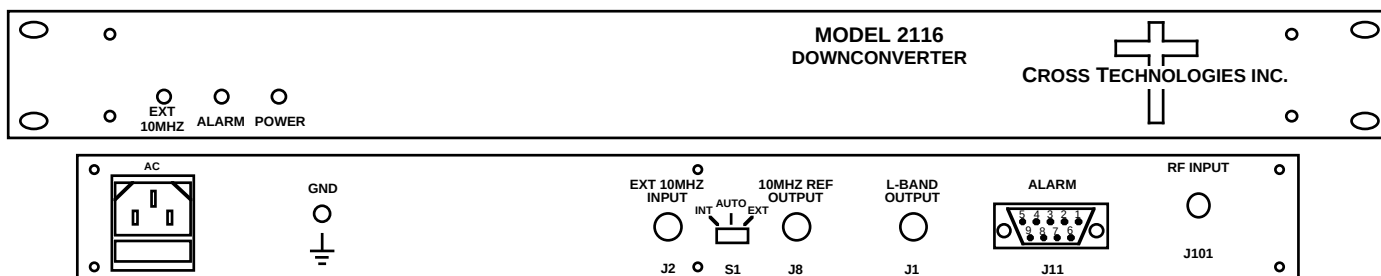


2116-114 Block Downconverter, 11.45 - 12.25 GHz to 0.95 - 1.75 GHz

The **2116-114 Block Downconverter** converts 11.45 - 12.25 GHz to 0.95 - 1.75 GHz with a local oscillator at 10.5 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +35 dB (+25 dB with Option W25). 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 $\pm$ 3 dB, 10MHz reference 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.



Front and Rear Panels

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss	50 Ω /14 dB
Frequency	11.45 to 12.25 GHz
Noise Figure, Max.	15 dB max gain
Level	-55 to -35 dBm (-45 to -25 dBm; OPTION W25)
1dB Compression	-25 dBm (-15dBm; OPTION W25)

Output Characteristics (L-Band)

Impedance/Return Loss	50 Ω /14 dB
Frequency	0.95 to 1.75 GHz
Level	-20 to 0 dBm
1dB Compression	+10 dBm

Channel Characteristics

Gain	+35 dB $\pm$ 2 dB (+25 dB $\pm$ 2 dB; OPTION W25)
Image Rejection	> 60 dB, min
Spurious, In Band	SIGNAL RELATED < -60 dBC in band, 0 dBm out; SIGNAL INDEPENDENT, < -60 dBC
Spurious, Out of Band	< -50 dBC
Intermodulation	< -55 dBC for two carriers each at -10 dBm out
Frequency Response	$\pm$ 1.5 dB, 0.95-1.75 MHz out; $\pm$ 0.5 dB, 40 MHz BW
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	10.5 GHz
Frequency Accuracy	$\pm$ 0.01 ppm max over temp internal reference; ext. ref. input
10 MHz level In/Out	+3 dBm $\pm$ 3 dB

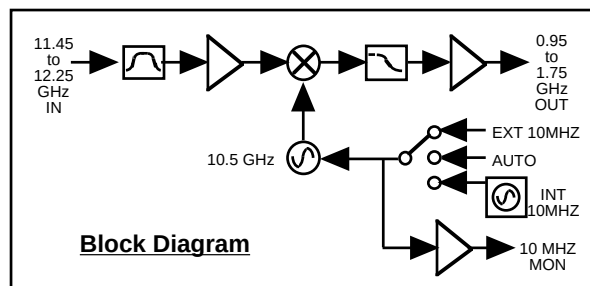
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	-70	-80	-85	-100	-110

Controls, Indicators

INT/AUTO/EXT Switch	Selects internal or external 10 MHz (rear panel DP3T switch)
Ext 10 MHz	Yellow LED, indicates external 10 MHz reference selected
PLL Alarm	Red LED, External contact closure
Power	Green LED

Other

RF Connector	SMA (female), standard
IF Connector	BNC (female), 50 Ω , standard
10 MHz connectors	BNC (female), 75 Ω connector; works with 50 Ω or 75 Ω
Alarm Connector	DB9 - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.75" high X 14.0" deep
Power	100-240 $\pm$ 10% VAC, 47 - 63 Hz, 25 watts max.



Block Diagram

Available Options

W25, +25dB gain

Connectors/Impedance

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

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