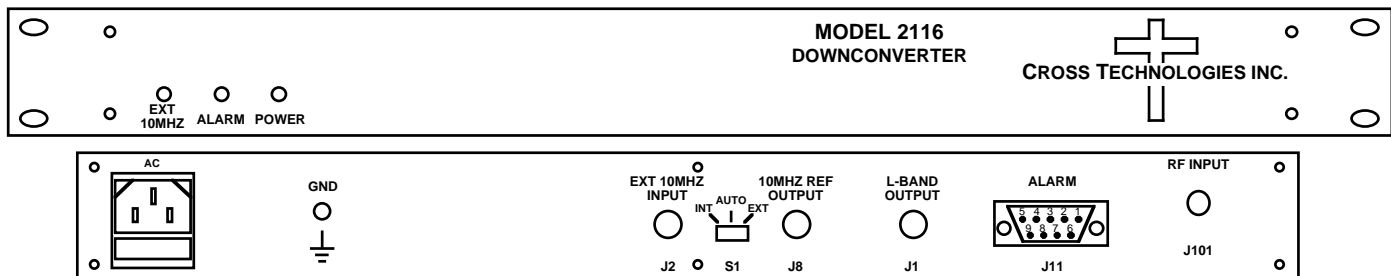


2116-109 Block Downconverter, 10.95 - 11.7 GHz to 0.95 - 1.7 GHz

The 2116-109 Downconverter converts 10.95 - 11.7 GHz to 0.95 - 1.7 GHz with a local oscillator at 10.0 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +35 dB (+25 dB for 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 ± 3 dB, 10MHz reference signal is connected to the external reference input. The 2116 is powered by a 100-240 ± 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 50Ω/14 dB
 Frequency 10.95 to 11.7 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 50Ω/14 dB
 Frequency 0.95 to 1.7 GHz
 Level -20 to 0 dBm
 1dB Compression +10 dBm

Channel Characteristics

Gain +35 dB ±2 dB(+25 dB ±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 ±1.5 dB, 0.95-1.7 MHz out; ± 0.5 dB, 40 MHz BW
 Frequency Sense Non-inverting

LO Characteristics

LO Frequency 10.0 GHz
 Frequency Accuracy ± 0.01 ppm max over temp internal reference; ext. ref. input
 10 MHz level In/Out +3 dBm ± 3 dB

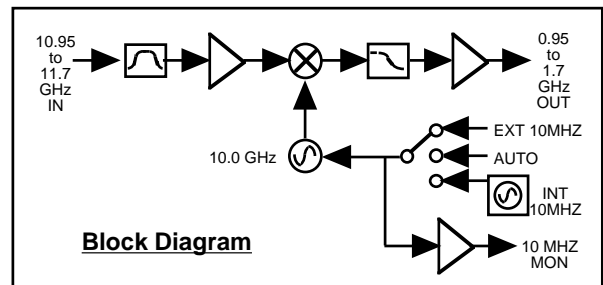
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	-70	-80	-85	-100	-110

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), 50Ω, standard
 10 MHz connectors BNC (female), 75Ω connector; works with 50Ω or 75Ω
 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 ± 10% VAC, 47 - 63 Hz, 25 watts max.



Block Diagram

Available Options

W25, +25dB gain

Connectors/Impedance

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

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