



DATA SHEET

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2116-107 Block Downconverter, 10.7 - 11.7 GHz to 0.95 - 1.95 GHz

The 2116-107 Downconverter converts 10.7 - 11.7 GHz to 0.95 - 1.95 GHz with a local oscillator at 9.75 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 10.7 to 11.7 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 1.95 GHz
 Level -20 to 0 dBm
 1dB Compression +10 dBm

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 - 1950 MHz out; ± 0.5 dB, 40 MHz BW
 Frequency Sense Non-inverting

LO Characteristics

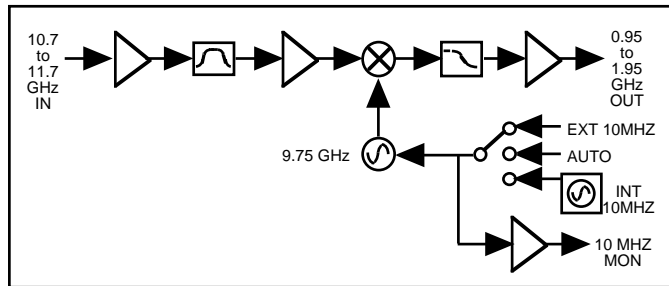
LO Frequency 9.75 GHz
 Frequency Accuracy ± 0.01 ppm max over temp internal reference; ext. ref. input
 10 MHz level In/Out +3 dBm ± 3 dB
 Phase Noise @ Freq | 100Hz 1kHz 10kHz 100kHz 1MHz
 dBC/Hz | < -70 < -80 < -85 < -100 < -110

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.



Block Diagram

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

