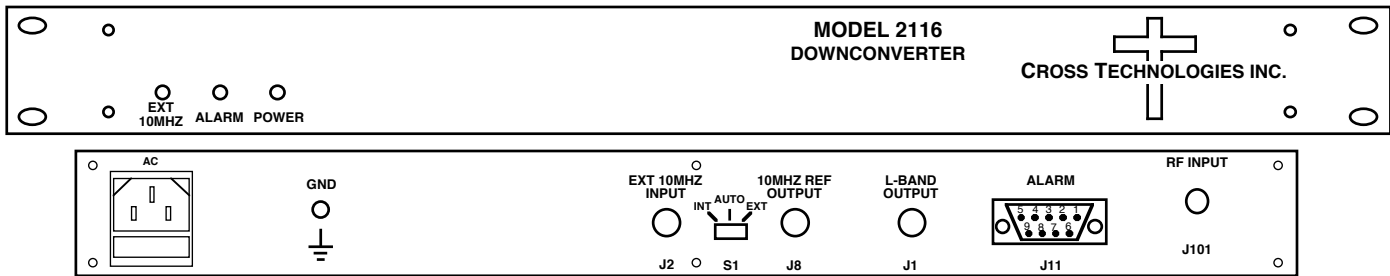


**2116-192212 Block Downconverter, 19.2 - 21.2 GHz to 0.40 - 2.40 GHz**

The 2116-192212 Downconverter converts **19.2 - 21.2 GHz** to **0.40 - 2.40 GHz** with a local oscillator at **18.80 GHz**. Front panel LEDs indicate DC Power, External 10 MHz, and PLL Alarm. The gain is **+35 dB**. Connectors are **SuperSMA** female for the RF input and BNC female for the RF output (designated 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. It is powered by a 100-240 ± 10% VAC power supply, and 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 **19.2 to 21.2 GHz**  
 Noise Figure, Max. 12 dB max gain, Gmax  
 Level -55 to -35 dBm  
 1dB Compression -25 dBm

**Output Characteristics (designated L-Band)**

Impedance/Return Loss 50Ω/14 dB  
 Frequency **0.40 to 2.40 GHz**  
 Level -20 to 0 dBm  
 1dB Compression +10 dBm at Fc

**Channel Characteristics**

Gain +35 dB ±2 dB at Fc  
 Image Rejection > 50 dB, min  
 Spurious, In Band **SIGNAL RELATED <-50 dBc, 0 dBm out; SIGNAL INDEPENDENT, <-55 dBm, 0.40-2.40 GHz Out**  
 Spurious, Out of Band <-50 dBm (0.1-0.40 GHz and 2.40-3.3 GHz Out), Gmax  
 Intermodulation <-50 dBc for two carriers at Fc ± 2 MHz, each at -15 dBm out  
 Frequency Response ±2.5 dB, 0.40-2.40 GHz out; ± 0.8 dB, 40 MHz BW  
 Frequency Sense Non-inverting

**LO Characteristics**

LO Frequency **18.80 GHz**  
 Frequency Accuracy ± 0.01 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-60	-70	-80	-90	-110

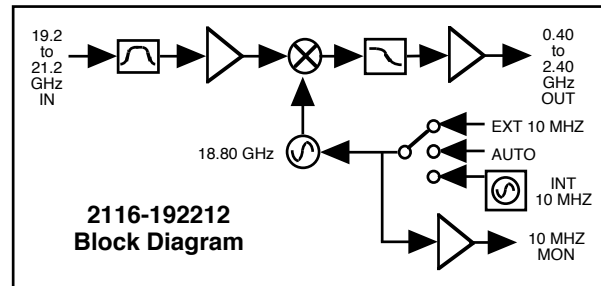
10 MHz level +3 dBm, ± 3 dB, 75 ohms, External In or Internal out

**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 In Connector **SuperSMA (female), 50Ω**  
 L-band Out Connector BNC (female), 50Ω  
 10 MHz connectors BNC (female), 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 maximum



**Available Options**

W31, Ext. Temp 0C to +50C

**Available Connector Options-**

267 - 50Ω SuperSMA (RF), 75Ω BNC (L-BAND)  
 26N - 50Ω SuperSMA (RF), 50Ω N-type (L-BAND)  
 26S - 50Ω SuperSMA (RF), 50Ω SMA (L-BAND)

S2C26 - 2.92mm connector replacing SuperSMA

**Contact Cross for other options**

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