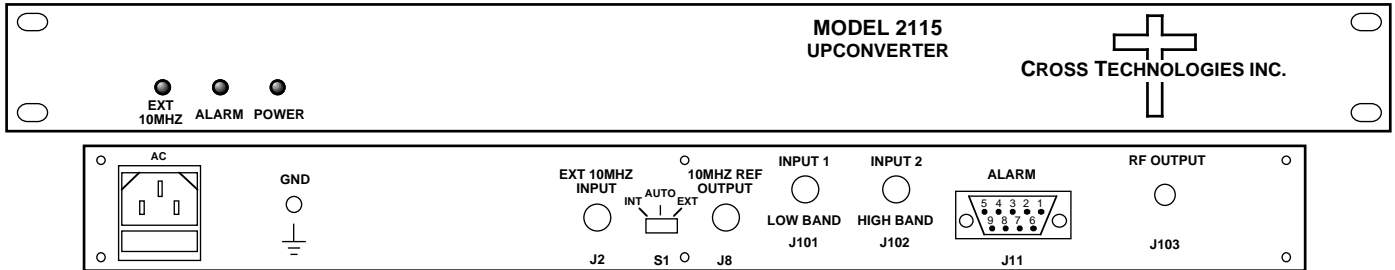


**2115-21-202 Block Upconverter, Dual, 0.95-1.45 to 18.3-18.8 and 19.7-20.2 GHz**

The 2115-21-202 Block Upconverter converts two separate 950 - 1450 MHz signals to 18.3-18.8 GHz (LO=17.35 GHz) and to 19.7-20.2 GHz (LO=3.19 & 15.56 GHz). Front panel LEDs provide indication of DC power, external 10 MHz, and PLL alarm. Gain is 0 ±3 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 signal is received on 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.



**EQUIPMENT SPECIFICATIONS\***

**Front and Rear Panels**

**Input Characteristics**

Impedance/Return Loss 50Ω / 14 dB  
 Frequency, Input 1, Input 2 **950 to 1450 MHz (each input)**  
 Noise Figure, Max. 20 dB max gain  
 Input Lvl Range - comp -11 to -31 dBm  
 Input Lvl Range/carrier -22 to -42 dBm  
 Input 1 dB compression +4 dBm

**Output Characteristics**

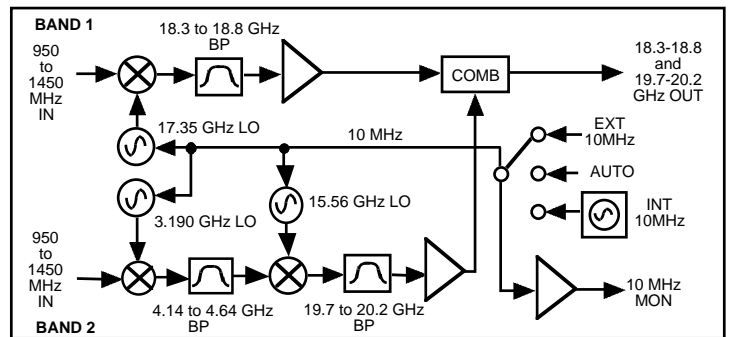
Impedance/Return Loss 50Ω / 10 dB  
 Frequency **18.3-18.8 & 19.7-20.2 GHz**  
 Output Lvl Range - comp -11 to -31 dBm  
 Output Lvl Range/carrier -22 to -42 dBm  
 Output 1 dB compression +4 dBm

**Channel Characteristics**

Gain 0 dB ±3 dB  
 Image Rejection > 50 dB, min  
 Spurious, Inband < -70 dBm  
 Spurious, Out of band, LO < -60 dBm  
 Intermodulation < -50 dBC for two carriers each at -14 dBm out  
 Frequency Response ± 2 dB, 18.3-18.8 GHz and 19.7-20.2 GHz out; ± 1 dB, 40 MHz BW  
 Frequency Sense Non-inverting

**LO Characteristics**

LO Frequency **17.35 GHz (Band 1) and 3.190 & 15.56 GHz (Band 2)**  
 Frequency Accuracy ± 0.01 ppm max over temp internal reference; external reference input  
 10 MHz In/Out Level 3 dBm ± 3 dB



**Block Diagram**

Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-55	-65	-80	-100	-115

**Available Connector Options**

- Std. - 50Ω SMA (RF), 50Ω BNC (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)

**Controls, Indicators**

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

**Other**

RF Connector SMA (female), 50Ω  
 L-Band Connector BNC (female), 50Ω  
 10 MHz Connectors **BNC (female), 75Ω connector; Works for 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, 45 watts max.

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

