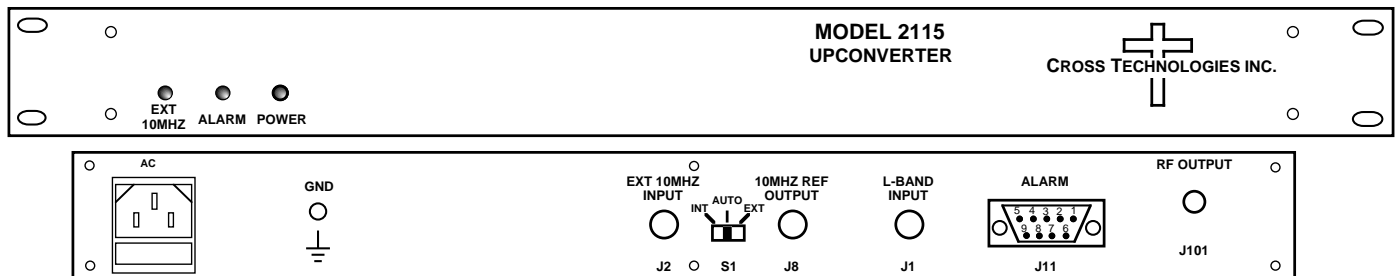


2115-278# Block Upconverter, 0.90 - 1.90 GHz to 27.80 - 28.80 GHz

The 2115-278# Block Upconverter converts **0.90 - 1.90 GHz to 27.80 - 28.80 GHz** with a local oscillator at **26.90 GHz**. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is +20 dB. Connectors are **2.92 mm** female for the RF out and BNC female for the RF in (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 \pm 3 dB, 10MHz reference signal is connected to the external reference input. It is powered by a 100-240 \pm 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 (designated L-Band)

Impedance/Ret. Loss 50 Ω /14 dB
Frequency **0.90 to 1.90 GHz**
Noise Figure, Max. 20 dB max gain
Input Level range -40 to -25 dBm
Input 1 dB compression **-15 dBm**

Output Characteristics (RF)

Impedance/Ret. Loss 50 Ω /14 dB
Frequency **27.80 to 28.80 GHz**
Output Level Range -20 to -5 dBm
Output 1 dB compr. +5 dBm

Channel Characteristics

Gain +20 \pm 1 dB at Fc
Image Rejection > 60 dB, min
Spurious, Inband SIGNAL RELATED <-60 dBC in band, -5 dBm out; SIGNAL INDEPENDENT, <-60 dBC;
Spurious, Inband, 2X Second harmonic of 0.90 to 0.95 GHz in, <-50 dBC, <-55 typ,
Spurious, Out of band <-50 dBm, **27.0-27.8 and 28.8-29.5 GHz out; LO, <-35 dBm, <-40 dBm typical**
Intermodulation <-55 dBC for two carriers each at -10 dBm out
Frequency Response **\pm 2.0 dB, 27.80 - 28.80 GHz out; \pm 0.5 dB, 40 MHz BW**
Frequency Sense Non-inverting

LO Characteristics

LO Frequency **26.90 GHz**
Frequency Accuracy \pm 0.01 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	-70	-75	-80	-90	-110

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

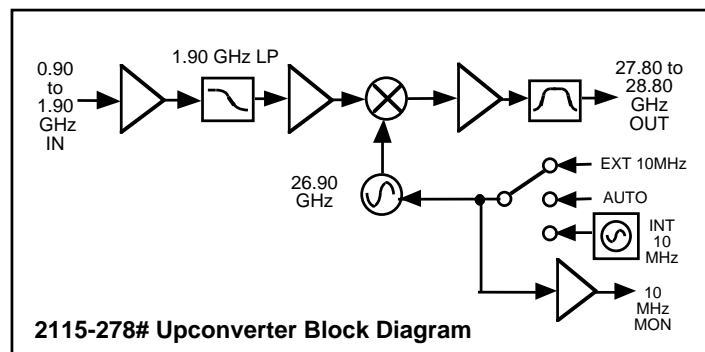
Controls, Indicators

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 BNC (female), 50 Ω (designated L-band)
RF Out Connector **2.92 mm (female), 50 Ω**
10 MHz connectors BNC (female), 75 Ω connector; Works for 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.

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



2115-278# Upconverter Block Diagram

Available Connector Options

297 - 50 Ω 2.92 mm (RF), 75 Ω BNC (L-BAND)
29N - 50 Ω 2.92 mm (RF), 50 Ω N-type (L-BAND)
29S - 50 Ω 2.92 mm (RF), 50 Ω SMA (L-BAND)