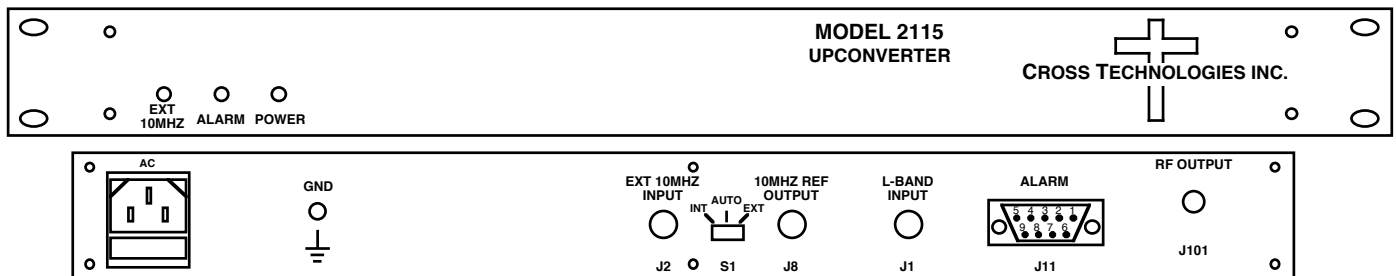


## 2115-140 Block Upconverter, 0.95 - 1.45 GHz to 14.0 - 14.5 GHz

The 2115-140 Block Upconverter converts 0.95 - 1.45 GHz to 14.0 - 14.5 GHz with a local oscillator at 13.05 GHz. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The L-band to RF gain is +20 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 2115 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**

Impedance/Ret. Loss    50Ω/14 dB  
 Frequency                0.95 to 1.45 GHz  
 Noise Figure, Max.     20 dB max gain  
 Input Level range       -40 to -25 dBm  
 Input 1 dB compression -10 dBm

#### **Output Characteristics**

Impedance/Ret. Loss    50 Ω /14 dB  
 Frequency                14.0 to 14.5 GHz  
 Output Level Range     -20 to -5 dBm  
 Output 1 dB compr.    +5 dBm

#### **Channel Characteristics**

Gain                        +20 ±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, Out of band <-50 dBm, **Fc ± 2 GHz**  
 Intermodulation        <-55 dBC for two carriers each at -10 dBm out  
 Frequency Response   ±1 dB, 14.0 - 14.5 GHz out; ± 0.5 dB, 40 MHz BW  
 Frequency Sense       Non-inverting

#### **LO Characteristics**

LO Frequency            13.05 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                 | -70 | -80 | -85 | -100 | -110 |

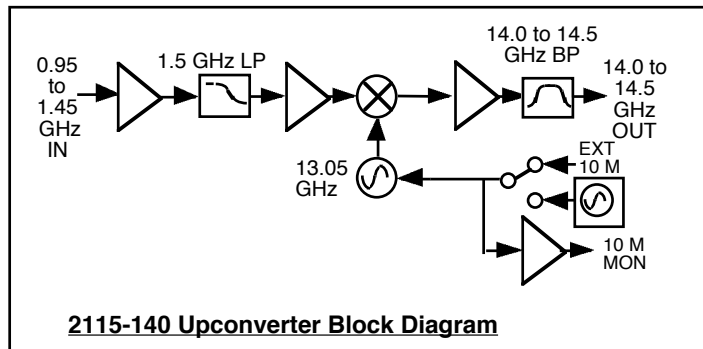
10 MHz level            +3 dBm, ± 3 dB, 75 ohms, External In or Internal out

#### **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), 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, 25 watts max.



**2115-140 Upconverter Block Diagram**

#### **Available Connector Options**

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