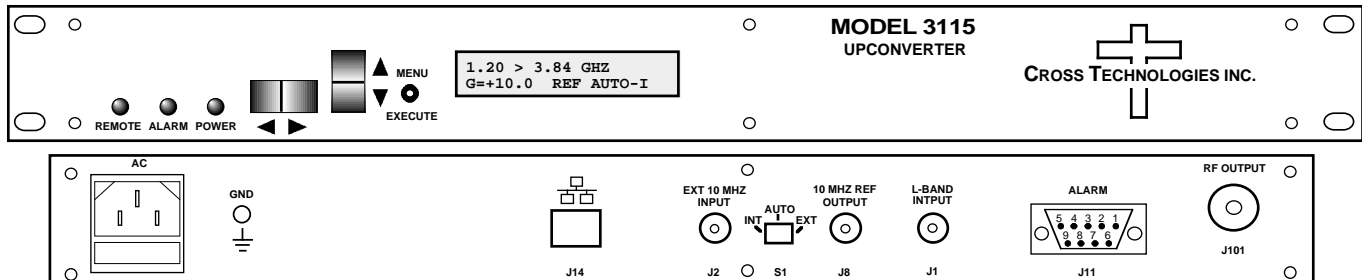


## 3115-35 Block Upconverter, 0.95 - 1.45 GHz to 3.59 - 4.09 GHz

The 3115-35 Upconverter converts 0.95 - 1.45 GHz to 3.59 - 4.09 GHz (non-inverted) with **11.48** and **8.84** GHz local oscillators. The gain is +30 dB maximum and is adjustable in  $0.5 \pm 0.5$  dB steps. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Gain and internal/external/Auto reference frequency selection are controlled by front panel switches or remote selection (via RS-232C/485, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are Type N female for the RF Out and BNC female for the L-band and external reference input and reference output. In AUTO, the 10 MHz reference stays in external if the external level is **+3 dBm,  $\pm 3$  dB**. It is powered by a 100-240  $\pm 10\%$  VAC power supply, and housed in a 1 3/4" X 19" X 14" rack mount chassis.



### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

Impedance/Return Loss	50 $\Omega$ /14 dB
Frequency	<b>0.95 to 1.45 GHz</b>
Noise Figure, Max.	<b>15 dB max gain</b>
Input Level range	-40 to -20 dBm

#### Output Characteristics

Impedance/Return Loss	50 $\Omega$ /18 dB
Frequency	<b>3.59 to 4.09 GHz</b>
Output Level Range	-20 to -5 dBm
Output 1 dB compression	<b>+5 dBm at max. gain</b>

#### Channel Characteristics

Gain, max; adjustment	<b>+30 dB <math>\pm 1</math> dB, max. gain; 30 dB adjustment in <math>0.5 \pm 0.5</math> dB Steps</b>
Image Rejection	>60 dB, min
Spurious, In Band	<b>-55 dBC in band, -20 to -5 dBm out</b>
Spurious, Out of Band	<b>-55 dBC, FL -0.9 GHz to FL and FH to FH +0.9 GHz ;FL= 3.59 GHz and FH = 4.09 GHz</b>
Spurious, Out of Band	<b>-50 dBm, FL -2 GHz to FL -0.9 GHz and FH +0.9 GHz to FH +2 GHz</b>
Intermodulation	<-55 dBC for two carriers each at -10 dBm out, <b>GAIN = +30 dB</b>
Frequency Response	<b><math>\pm 1.0</math> dB, 3.59 -4.09 GHz out; <math>\pm 0.5</math> dB, 40 MHz BW</b>
Frequency Sense	Non-inverting

#### LO Characteristics

LO Frequencies	<b>11.48 and 8.84 GHz</b>
Frequency Accuracy	$\pm 0.01$ ppm max over temp internal reference; ext. ref. input
10 MHz In/Out Level	3 dBm, $\pm 3$ dB, w/ Auto-detect

Phase Noise @ F (Hz) >	10	100	1K	10K	100K	1M
Standard dBC/Hz	-55	-70	-80	-80	-95	-110

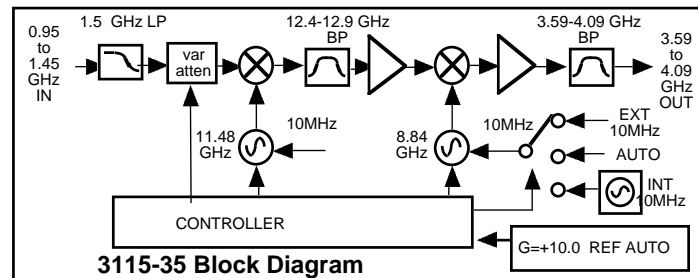
#### Controls, Indicators

Gain; Ext Ref Selection	Direct readout LCD; pushbutton switches or remote
Pwr; Alarm; Rem; Mute	Green LED; Red LED; Yellow LED; Yellow LED
Remote	RS232C/RS485/422, 9600 baud (Ethernet Optional)

#### Other

RF Out Connector	N-type (female), 50 $\Omega$
L-band Connector	BNC (female), 50 $\Omega$
10 MHz Connectors	BNC (female), <b>75<math>\Omega</math>, works with 50 or 75 ohms</b>
Alarm/Remote Conn.	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, 45 watts max.

### Front and Rear Panel



#### Available Options

- W7 L-band/RF front panel Monitors(-20dBC)
- W31 0 to +50 degrees C operation

#### Remote M&C Ethernet Options

- W8 - Ethernet w/web browser Interface
- W18 - Ethernet w/SNMP (and MIB) Interface
- W28 - Ethernet w/direct TCP/IP Interface

#### Available Connector Options

- N - 50 $\Omega$  N-type (RF), 75 $\Omega$  BNC (L-BAND)
- NF - 50 $\Omega$  N-type (RF), 75 $\Omega$  F-type (L-BAND)
- NN - 50 $\Omega$  N-type (RF), 50 $\Omega$  N-type (L-BAND)
- S7 - 50 $\Omega$  SMA (RF), 75 $\Omega$  BNC (L-BAND)
- SF- 50 $\Omega$  SMA (RF), 75 $\Omega$  F-type (L-BAND)
- SN - 50 $\Omega$  SMA (RF), 50 $\Omega$  N-type (L-BAND)
- SS - 50 $\Omega$  SMA (RF), 50 $\Omega$  SMA (L-BAND)

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