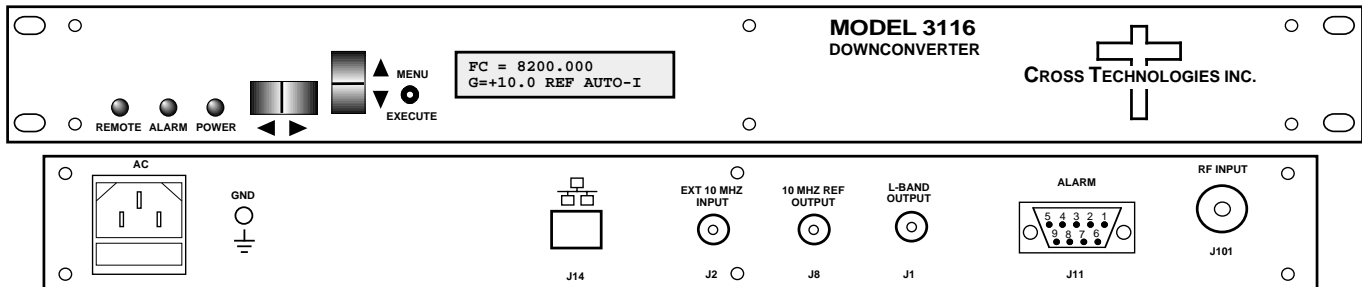


## 3116-76-1200 Block Downconverter, 7.675 - 8.725 GHz to 1200 ± 325 MHz

The 3116-76-1200 Downconverter converts **7.675 - 8.725 GHz (Fc = 8.0 - 8.4 GHz)** to **1200 ± 325 MHz** (non-inverted) in **1 MHz steps** with a **6.80 - 7.20 GHz** local oscillator. The gain is **+35 dB maximum** with a **30 dB adjustment in 0.5 ± 0.5 dB steps**. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Frequency and internal/external/Auto reference mode 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 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, ±3 dB**. The 3116 is powered by a **100-240 ± 10% VAC** power supply, and housed in a **1 3/4" X 19" X 14"** rack mount chassis.



### EQUIPMENT SPECIFICATIONS\*

### Front and Rear Panel

#### Input Characteristics (RF)

Impedance/Return Loss	50Ω/14 dB
Frequency	<b>7.675 to 8.725 GHz (Fc = 8.0 - 8.4 GHz)</b>
Noise Figure, Max.	<b>12 dB</b>
Input Level range	-55 to -35 dBm
Input 1 dB compression	-25 dBm

#### Output Characteristics (L-Band)

Impedance/Return Loss	50Ω /14 dB
Frequency	<b>1200 ± 325 MHz</b>
Output Level Range	<b>-20 to 0 dBm</b>
Output 1 dB compression	<b>+10 dBm at max. gain</b>

#### Channel Characteristics

Gain at Fc, Max.; adj.	<b>+35 dB ± 2 dB, max. gain; 30 dB adjustment in 0.5± 0.5 dB Steps (Fc = 8.0 - 8.4 GHz)</b>
Image Rejection	> 60 dB, min
Spurious, In Band	SIGNAL RELATED <-45 dBC, 0 dBm out; SIGNAL INDEPENDENT, <-55 dBm (1200 ±325 MHz Out)
Spurious, Out of Band	<-50 dBm (0.3-0.87 and 1.55-2.0 GHz Out)
Intermodulation	<-50 dBC for two carriers at 4 MHz spacing, each at -10 dBm out, at Gmax.
Frequency Response	<b>±2.0 dB over the band, ± 1.0 dB 1200 ± 325 MHz out;</b>
Frequency Sense	Non-inverting

#### LO Characteristics

LO Frequency	<b>6.80 - 7.20 GHz, 1 MHz steps</b>
Frequency Accuracy	± 0.01 ppm max over temp internal reference; ext. ref. input
10 MHz In/Out Level	3 dBm, ± 3 dB, w/ Auto-detect

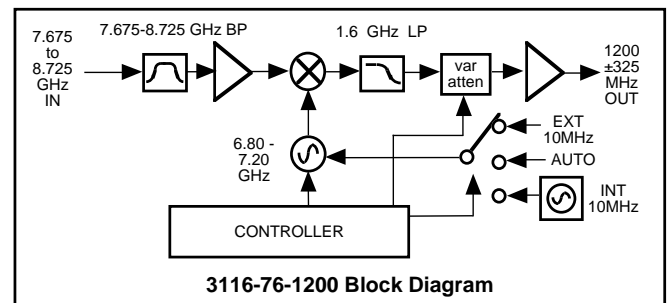
Phase Noise @ F (Hz) >	10	100	1K	10K	100K	1M
Standard dBC/Hz	-55	-75	-80	-80	-100	-120

#### Controls, Indicators

Freq.; 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 Connector	N-Type (female), 50Ω
L-Band Connector	BNC (female), 50Ω
10 MHz Connectors	BNC (female), <b>75Ω, 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 ± 10% VAC, 47 - 63 Hz, <b>30 watts max.</b>



#### Available Options

##### 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

##### Connector Options

N - 50Ω N-type (RF), 75Ω BNC (L-BAND)  
NN - 50Ω N-type (RF), 50Ω N-type (L-BAND)  
NS - 50Ω N-type (RF), 50Ω SMA (L-BAND)  
S7 - 50Ω SMA (RF), 75Ω BNC (L-BAND)  
SN - 50Ω SMA (RF), 50Ω N-type (L-BAND)  
SS - 50Ω SMA (RF), 50Ω SMA (L-BAND)

##### Contact Cross for other Options

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