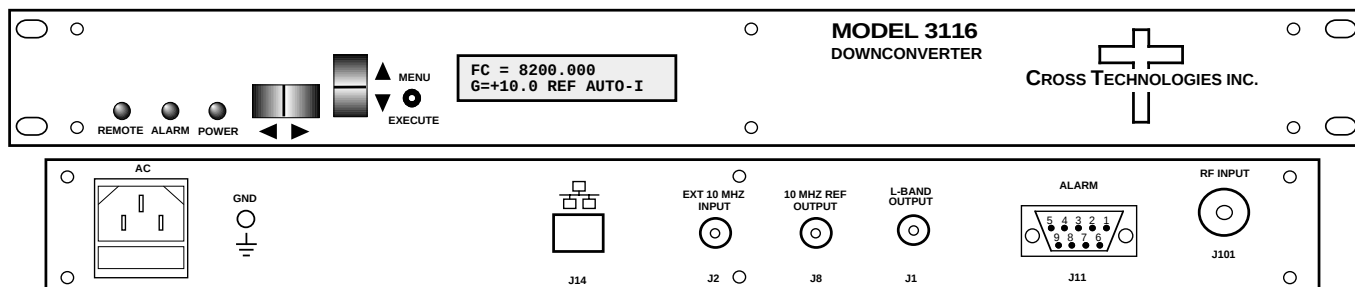


3116-76-1200 Block Downconverter, 7.675 - 8.725 GHz to 1200 ± 325 MHz

The 3116-76-1200 Downconverter converts **7.675 - 8.725 GHz** ($F_c = 8.0 - 8.4$ 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*

Input Characteristics (RF)

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

Output Characteristics (L-Band)

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

Channel Characteristics

Gain at F_c , Max.; adj.	+35 dB ±2 dB, max. gain; 30 dB adjustment in 0.5± 0.5 dB Steps ($F_c = 8.0 - 8.4$ GHz)
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 G_{max} .
Frequency Response	±2.0 dB over the band, ± 1.0 dB 1200 ± 325 MHz out;
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	6.80 - 7.20 GHz, 1 MHz steps
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

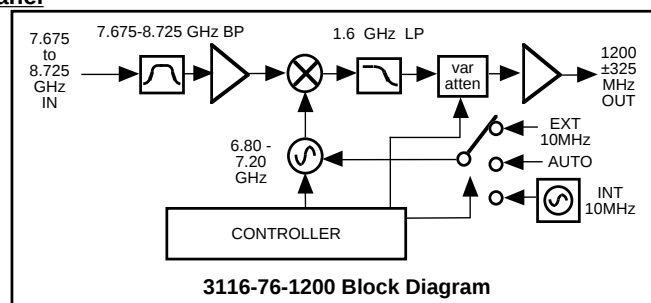
Controls, Indicators

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), 75Ω, works with 50 or 75 ohms
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, 30 watts max.

Front and Rear Panel



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