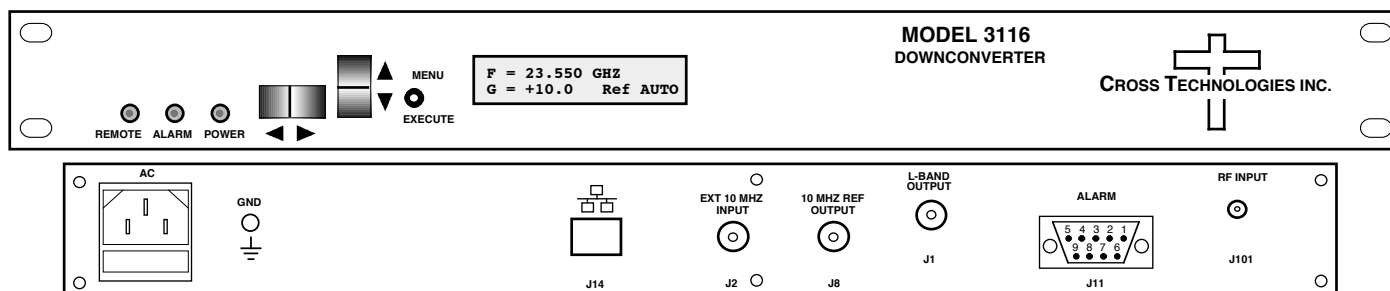


## 3116-236#-1200 Agile Block Downconverter, 22.55 - 23.55 GHz to 1200 ± 400 MHz

The **3116-236#-1200 Agile Block Downconverter** converts **22.55 - 23.55 GHz** to **1200 ± 400 MHz** in **5 MHz steps** with low phase noise and flat frequency response. Frequency translation is via dual conversion. The gain is **+30 dB** maximum and is adjustable in **0.5 ± 0.5 dB steps**. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Frequency, gain and internal/external/auto reference frequency selection are controlled by front panel switches or remote selection (via RS 232C, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are **2.92 mm (female)** for the RF and BNC female for the L-Band and external reference input and reference output. In AUTO, the 10 MHz reference switches to internal when the external is below 0 dBm ± 1 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.



**Front And Rear Panels**

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics (RF)

Impedance/Return Loss	50Ω/14 dB
Frequency	<b>22.55 to 23.55 GHz</b>
Noise Figure, Max.	<b>20 dB max gain</b>
Input Level range	<b>-50 to -30 dBm</b>
Input 1 dB compression	-25 dBm

#### Output Characteristics (L-Band)

Impedance/Return Loss	<b>75Ω /14 dB</b>
Frequency	<b>1.2 ± 0.400 GHz</b>
Output Level Range	-20 to 0 dBm
Output 1 dB compression	+10 dBm at max. gain

#### Channel Characteristics

Gain, max; adjustment	<b>+30.0 ± 3 dB at Fc; adjustable from 0 to +30.0 dB, 0.5 ± 0.5 dB steps</b>
Image Rejection	> 60 dB, min
Spurious, In Band	SIGNAL RELATED <-50 dBC in band, 0 dBm out; 2XFo <-45dBC; SIGNAL INDEPENDENT, <-60 dBm
Spurious, Out of Band	<-50 dBm, <b>0.5-0.79 GHz and 1.61- 2.5 GHz</b>
Intermodulation	<-50 dBC for two carriers spaced 4 MHz, each at -10 dBm out
Frequency Response	<b>±1.5 dB, 1.2 ± 0.400 GHz</b> out; ± 0.5 dB, 40 MHz BW
Frequency Sense	Non-inverting

#### LO Characteristics

Frequency Step	<b>5 MHz</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

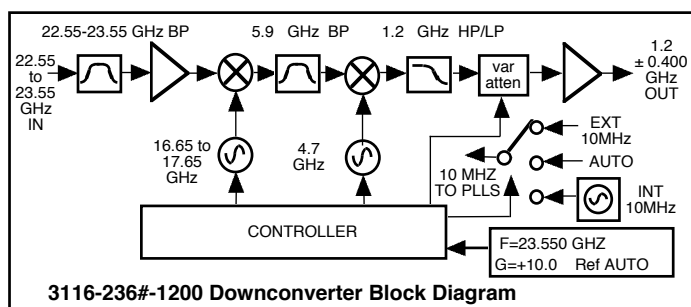
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	60	70	80	90	100

#### Controls, Indicators

Freq., Gain, Ext Ref Sel.	Direct readout LCD; pushbutton switches or remote
Power; Alarm; Remote	Green LED; Red LED; Yellow LED
Remote	<b>RS232C/RS485/422</b> , 9600 baud (Ethernet/opt -W8, 18, 28, 828)

#### Other

RF Connector	<b>2.92 mm (female)</b>
L-Band Connector	BNC (female), <b>75Ω</b>
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</b> max.



**3116-236#-1200 Downconverter Block Diagram**

#### Available Options

- W8 - Ethernet; w/Web Browser (WB)**
- W18 - Ethernet; w/WB & SNMP**
- W28 - Ethernet; w/TCP/IP, Telnet**
- W828 = W8 + W18 + W28**

#### Connectors/Impedance

- S2 - 2.92mm (RF), 50Ω BNC (IF)**
- SS2- 2.92mm (RF), SMA (IF)**

**Contact Cross for other options**

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