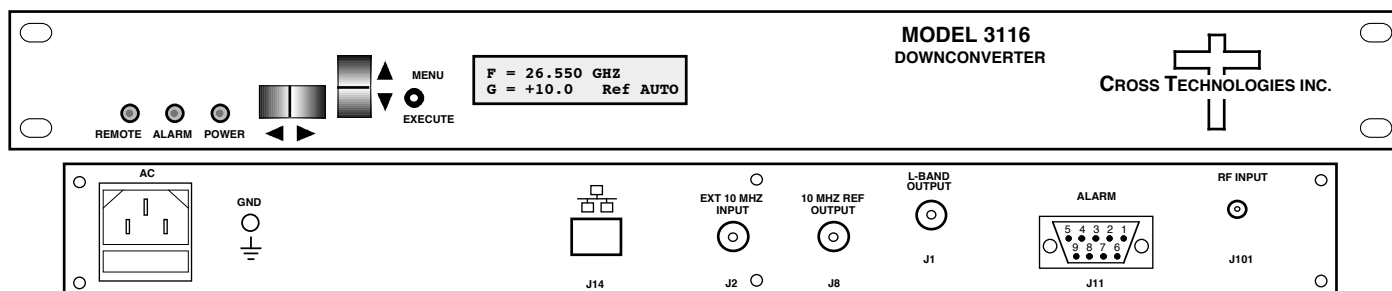


## 3116-277#-1200 Agile Block Downconverter, 25.25 - 27.7 GHz to 1200 ± 400 MHz

The **3116-277#-1200 Agile Block Downconverter** converts 25.25 - 27.7 GHz to **1.2 ± 0.400 GHz** 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 11.7" rack mount chassis.



**Front And Rear Panels (Shown with optional Ethernet)**

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics (RF)

Impedance/Return Loss 50Ω/14 dB  
 Frequency 25.25 to 27.7 GHz  
 Noise Figure, Max. 20 dB max gain, Fc  
 Input Level range -50 to -30 dBm  
 Input 1 dB compression -25 dBm, Fc

#### Output Characteristics (L-Band)

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

#### Channel Characteristics

Gain, max; adjustment **+30 dB ±3 dB**, max. gain; 30 dB adjustment in **1 ± 1 dB** Steps, Fc  
 Image Rejection > 60 dB, min  
 Spurious, In Band SIGNAL RELATED < -50 dBc in band, 0 dBm out; 2Xfo < -45dBc; SIGNAL INDEPENDENT, < -60 dBm, Gmax  
 Spurious, Out of Band < -50 dBm, **0.5-0.79 GHz and 1.61- 2.5 GHz, Gmax**  
 Intermodulation < -50 dBc for two carriers spaced 4 MHz, each at -10 dBm out, Gmax  
 Frequency Response **±1.5 dB, 1.2 ± 0.400 GHz** out; ± 0.5 dB, 40 MHz BW  
 Frequency Sense Non-inverting

#### LO Characteristics

Frequency Step **5 MHz**  
 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

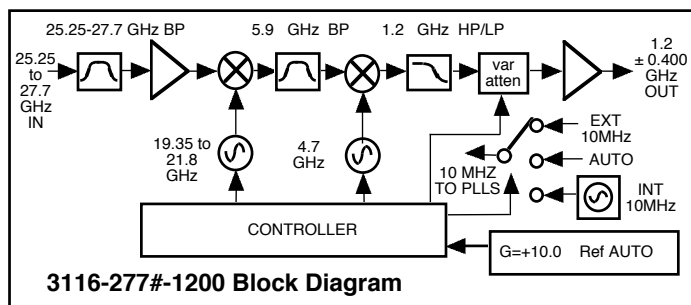
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBc	60	70	80	90	100

#### Controls, Indicators

Freq., Gain, Ext Ref Sel. Direct readout LCD; pushbutton switches or remote  
 Power; Alarm; Remote Green LED; Red LED; Yellow LED  
 Remote RS232C/RS485/422, 9600 baud (**Ethernet Optional**)

#### Other

RF Connector **2.92 mm (female)**  
 L-Band Connector BNC (female), **75Ω**  
 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 11.7" deep  
 Power 100-240 ± 10% VAC, 47 - 63 Hz, **30 watts** max.



**3116-277#-1200 Block Diagram**

#### Available Options

**W85-O** -20 dB SMA Rear Panel Output Monitor  
**X1M** 1 MHz Frequency Step Size  
**W8** Ethernet; w/Web Browser (WB)  
**W18** Ethernet; w/WB & SNMP  
**W28** Ethernet; w/TCP/IP, Telnet  
**W828** Ethernet; 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