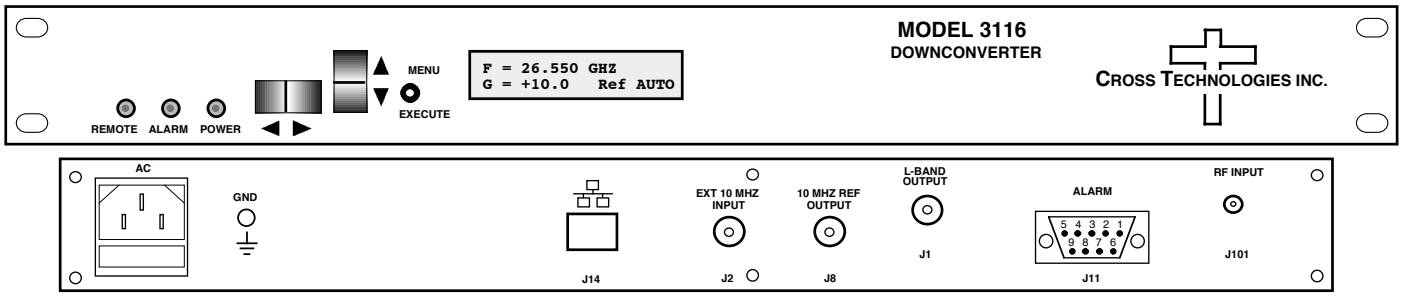
CROSS TECHNOLOGIES, INC.

DATA SHEET
REV. D
7/15/26

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)

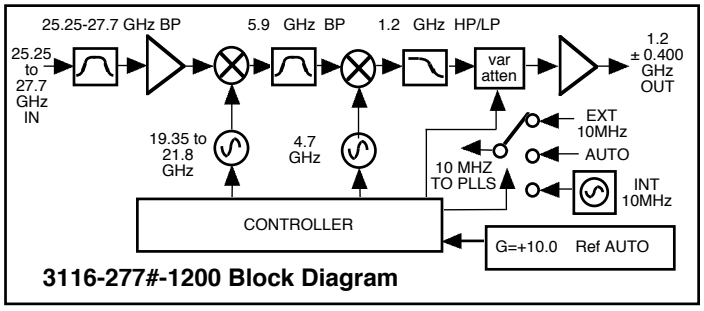
EQUIPMENT SPECIFICATIONS*

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**



3116-277#-1200 Block Diagram

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.

Available Options

W85-O -20 dB SMA Rear Panel Output Monitor
W108-250 25.0 to 27.7 GHz Input Range
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

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