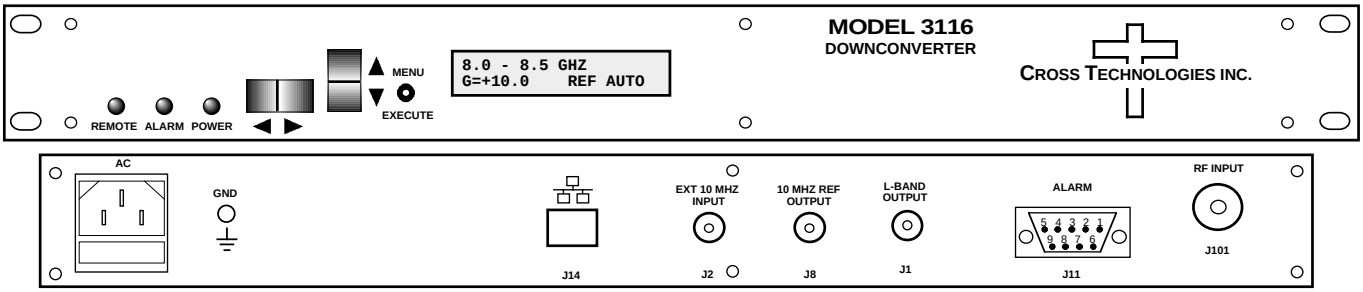
CROSS TECHNOLOGIES, INC.

DATA SHEET
REV. A
8/14/14

3116-80-2050 Block Downconverter, 8.0 - 8.5 GHz to 1.80 - 2.30 GHz

The 3116-80-2050 Downconverter converts 8.0 - 8.5 GHz to 1.80 - 2.30 GHz (non-inverted) with a 6.20 GHz local oscillator. The gain is +35 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. Gain and internal/external/Auto reference frequency 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*

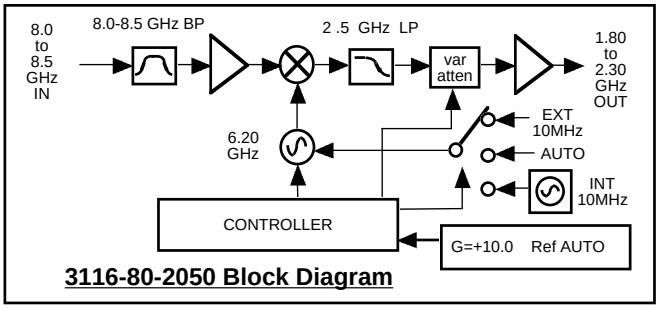
Input Characteristics (RF)

Impedance/Return Loss	50Ω/**18 dB**
Frequency	8.0 to 8.5 GHz
Noise Figure, Maximum	12 dB max gain
Input Level range	-55 to -35 dBm
Input 1 dB compression	-25 dBm

Output Characteristics

Impedance/Return Loss	50Ω /14 dB
Frequency	1.80 to 2.30 GHz
Output Level Range	-20 to 0 dBm
Output 1 dB compression	+10 dBm **at max. gain**

Front and Rear Panel (shown with optional Ethernet)



3116-80-2050 Block Diagram

Channel Characteristics

Gain, max; adjustment	+35 dB ±2 dB, max. gain; 30 dB adjustment in **0.5± 0.5 dB** Steps
Image Rejection	> 60 dB, min
Spurious, In Band	SIGNAL RELATED<-55 dBC in band, 0 dBm out;SIGNAL INDEPENDENT,<-60 dBm **(1.80-2.30 GHz Out)**
Spurious, Out of Band	<-50 dBm **(1.3-1.79 GHz and 2.31-2.8 GHz Out)**
Intermodulation	<-55 dBC for two carriers each at -10 dBm out
Frequency Response	ç
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	6.20 GHz
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*	*-70*	*-80*	*-85*	*-100*	*-110*
Opt W87 Enhanced dBC/Hz	*-60*	*-75*	*-90*	*-95*	*-105*	*-120*

Controls, Indicators

Gain; 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	Type N (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.

Available Options

W31 - 0 to +50 degrees C operation
W87 - Enhanced Phase Noise

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)
NF - 50Ω N-type (RF), 75Ω F-type (L-BAND)
NN - 50Ω N-type (RF), 50Ω N-type (L-BAND)
S7 - 50Ω SMA (RF), 75Ω BNC (L-BAND)
SF- 50Ω SMA (RF), 75Ω F-type (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.

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