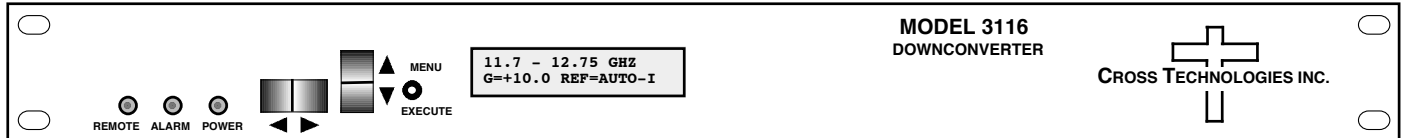


3116-117 Block Downconverter, 11.7 - 12.75 GHz

The 3116-117 Downconverter converts 11.7 - 12.75 GHz to 0.95 - 2.0 GHz with low phase noise and flat frequency response. Frequency translation is via a 10.75 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, standard; Ethernet Optional) and are viewable on the LCD Display. Connectors are SMA 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 Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss	50Ω/14 dB
Frequency	11.7 to 12.75 GHz
Noise Figure, Max.	12 dB max gain
Input Level range	-55 to -35 dBm
Input 1 dB compression	-25 dBm

Output Characteristics (L-Band)

Impedance/Return Loss	50Ω /14 dB
Frequency	0.95 to 2.0 GHz
Output Level Range	-20 to 0 dBm
Output 1 dB compression	+10 dBm

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; 2XFo <-45dBC;SIGNAL INDEPENDENT,<-60 dBm
Spurious, Out of Band	<-50 dBm, 0.5 to 2.5 GHz
Intermodulation	<-55 dBC for two carriers each at -10 dBm out
Frequency Response	±1.5 dB, 950 -1950 MHz out; ± 0.5 dB, 40 MHz BW
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	10.75 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

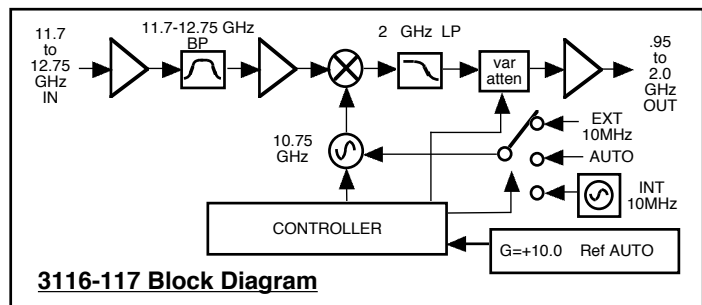
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	-70	-80	-85	-100	-110

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	SMA (female), 50Ω
L-Band Connector	BNC (female), 50Ω
10 MHz Connectors	BNC (female), 50Ω/75Ω
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, 45 watts max.



3116-117 Block Diagram

Options - Contact Cross for others

W7L - L&RF front panel SMA Mon. (-20dBC)
W31 - 0 to +50 degrees C operation
W50 - Gain (38 dB ± 3 dB) & P1dB = +18 dB

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)

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