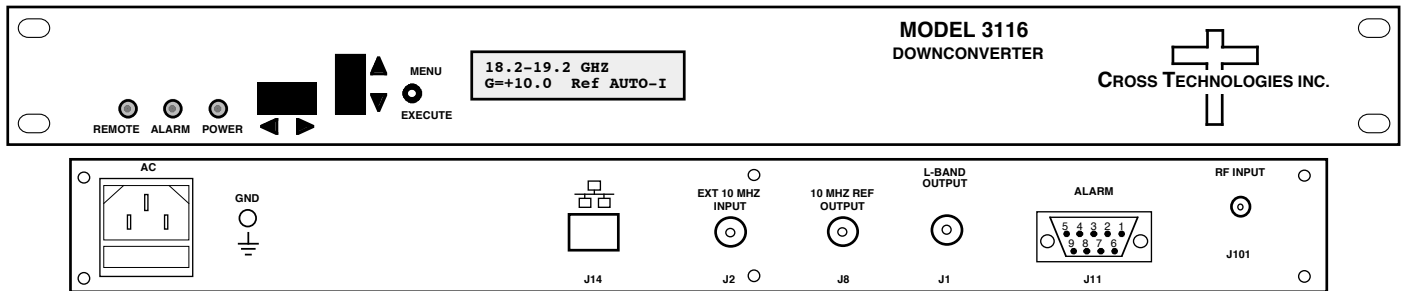


## 3116-182 Block Downconverter, 18.2 - 19.2 GHz to 0.95 - 1.95 GHz

The **3116-182 Block Downconverter** converts **18.2 - 19.2 GHz** to **0.95 - 1.95 GHz** with low phase noise and flat frequency response. Frequency translation is via a **17.25 GHz** local oscillator. The gain is  $+35 \pm 2$  dB maximum and is adjustable in  $0.5 \pm 0.5$  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 **Super 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 stays in external if the external level is  $+3$  dBm,  $\pm 3$  dB. The 3116 is powered by a 100-240  $\pm 10\%$  VAC power supply, and housed in a 1 3/4" X 19" X 14" rack mount chassis.



Front Panel and Rear Panel (shown with optional Ethernet)

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics (RF)

Impedance/Return Loss	50Ω/14 dB
Frequency	18.2 to 19.2 GHz
Noise Figure, Max.	12 dB at 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	<b>0.95 - 1.95 GHz</b>
Output Level Range	-20 to 0 dBm
Output 1 dB compression	+10 dBm at max. gain

#### Channel Characteristics

Gain, max; adjustment	+35 dB $\pm 2$ dB, max. gain; +5 to +35 dB adjustment range in <b>0.5 <math>\pm</math> 0.5 dB</b> Steps at Fc
Image Rejection	> 60 dB, min
Spurious, In Band	SIGNAL RELATED <-55 dBC in band, 0 dBm out; SIGNAL INDEPENDENT, <-60 dBm, <b>Gmax</b> .
Spurious, Out of Band	<-50 dBm, <b>0.5-0.94 GHz and 1.96- 3.0 GHz, at max. gain</b>
Intermodulation	<-50 dBC for two carriers spaced at Fc $\pm$ 2 MHz, each at -10 dBm out
Frequency Response	<b><math>\pm 1.5</math> dB, 0.95 - 1.95 GHz out; <math>\pm 0.5</math> dB, 40 MHz BW</b>
Frequency Sense	Non-inverting

#### LO Characteristics

LO Frequency	<b>17.25 GHz , fixed LO</b>
Frequency Accuracy	$\pm 0.01$ ppm max over temp internal reference; ext. ref. input
10 MHz In/Out Level	3 dBm, $\pm 3$ dB, w/ Auto-detect

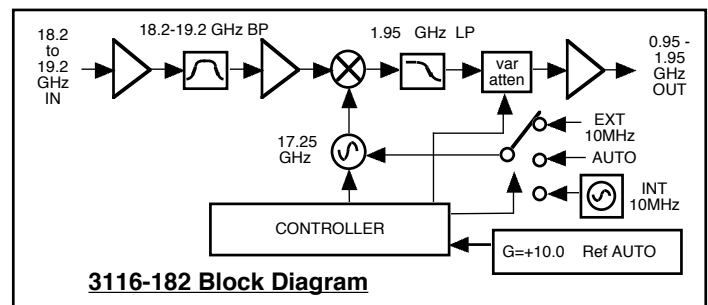
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-70	-75	-80	-95	-110

#### Controls, Indicators

Freq., Gain, Ext Ref Sel.	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/L-Band Connector	<b>Super SMA</b> (female), 50Ω / BNC (female), 50Ω
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 $\pm 10\%$ VAC, 47 - 63 Hz, <b>30</b> watts max.



3116-182 Block Diagram

#### Available Options

##### 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
- W828 - W8 +W18 +W28

##### Extended Temperature Option

- W31 - 0°C to 50°C

##### Connector Options

- 267 - 50Ω SuperSMA (RF), 75Ω BNC (L-BAND)
- 26N - 50Ω SuperSMA (RF), 50Ω N-type (L-BAND)
- 26S - 50Ω SuperSMA (RF), 50Ω SMA (L-BAND)

##### Contact Cross for other options

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