CROSS TECHNOLOGIES, INC.

DATA SHEET
REV. 0
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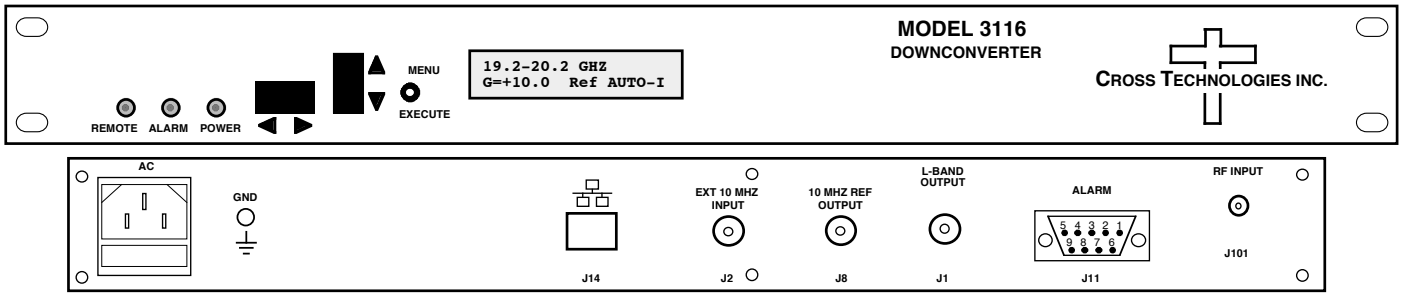
3116-192 Block Downconverter, 19.2 - 20.2 GHz to 0.95 - 1.95 GHz

The **3116-192 Block Downconverter** converts **19.2 - 20.2 GHz to 0.95 - 1.95 GHz** with low phase noise and flat frequency response. Frequency translation is via a **18.25 GHz** local oscillator. The gain is +35 **± 2** 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 **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, ±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.



Front Panel and Rear Panel (shown with optional Ethernet)

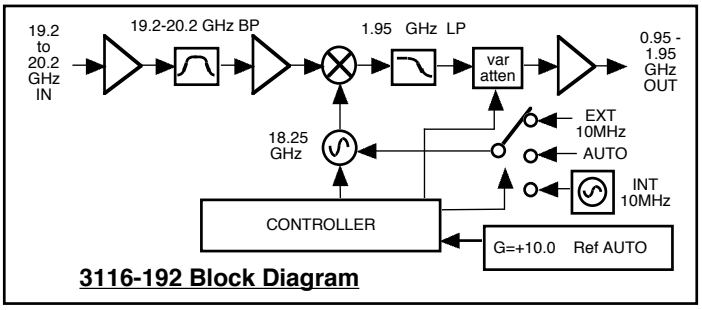
EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss	50Ω/14 dB
Frequency	19.2 to 20.2 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	**0.95 - 1.95 GHz**
Output Level Range	-20 to 0 dBm
Output 1 dB compression	+10 dBm **at max. gain**



3116-192 Block Diagram

Channel Characteristics

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

LO Characteristics

LO Frequency	**18.25 GHz , fixed LO**
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*	*-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	**Super SMA** (female), 50Ω / 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

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

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