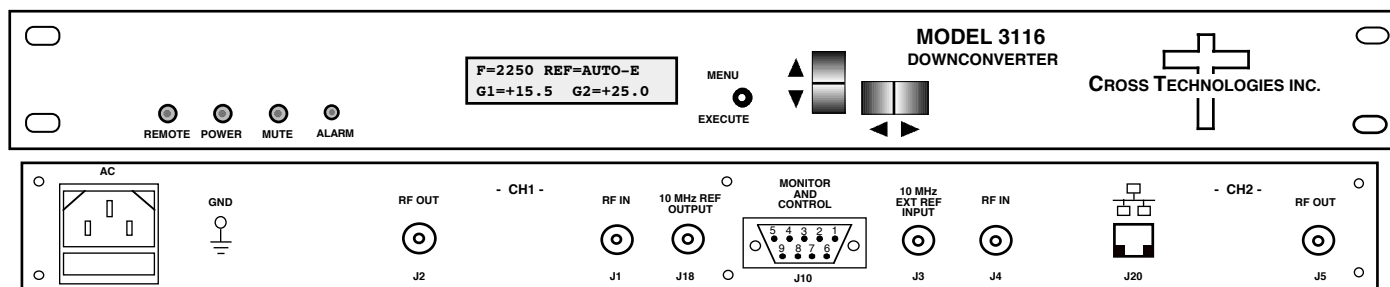


3116-22-2223# Two Channel Downconverter, 2200 to 2300 MHz to 1200 ±12.5 MHz

The 3116-22-2223# Two Channel Downconverter converts 2200 to 2300 MHz to 1200 ±12.5 MHz (non-inverted) with a 1.00 to 1.10 GHz (common) local oscillator. 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. 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 BNC female for the RF In and RF Out 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. It is powered by a 100-240 ± 10% VAC power supply, and is in a 1 3/4" X 19" X 17" rack mount chassis.



Front and Rear Panel (Shown with option W8)

EQUIPMENT SPECIFICATIONS (Each Channel)*

Input Characteristics (RF)

Impedance/Return Loss	50Ω/14 dB
Frequency	2200 to 2300 MHz
Noise Figure, Max.	15 dB, Gmax, Fc
Input Level range	-40 to -20 dBm, Gmax, Fc
Input 1 dB compression	-10 dBm, Gmax, Fc

Output Characteristics

Impedance/Return Loss	50Ω /14 dB
Frequency	1200 ±12.5 MHz
Output Level Range	-20 to 0 dBm, Fc
Output 1 dB compr.	+10 dBm, Gmax, Fc

Channel Characteristics

Gain, max @ Fc	+30 dB ±2 dB, Fc
Gain, adjustment	+0 to +30 dB, 0.5 ± 0.5 dB Steps, Fc
Image Rejection	> 60 dB, min
Spurious, In Band	>50 dBc, 0 dBm out; (1200 ±12.5 MHz Out), Gmax
Spurious, Out of Band	<-50 dBm (0.5-1.18 and 1.22-2.0 GHz Out), Gmax
Channel-Channel Isol.	>50 dBc, >55 dBc typ., Gain = +30 dB
Intermodulation	<-50 dBc for two carriers at Fc ± 2 MHz , each at -10 dBm out, Gmax
Frequency Response	±1.0 dB, 1200 ±12.5 MHz out
Frequency Sense	Non-inverting

LO Characteristics

LO Frequency	1.00 to 1.10 GHz, 1.0 MHz steps(Common to both channels)
Frequency Accuracy	± 0.01 ppm max over temp internal reference; ext. ref. input
10 MHz In/Out Level	3 dBm, ± 3 dB

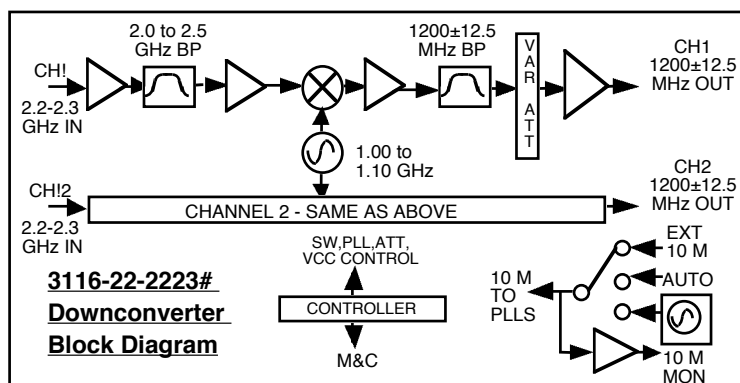
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBc/Hz	-70	-80	-85	-100	-120

Controls, Indicators

Gain; Ext Ref Selection	Direct readout LCD; pushbutton switches or remote
Pwr; Alarm; Rem	Green LED; Red LED; Yellow LED
Remote	RS232C/RS485/422, 9600 baud (Ethernet Optional)

Other

RF In, RF Out Conn.	BNC (female), 50Ω (other options available)
10 MHz Connectors	BNC (female), 75Ω, works with 50 or 75 ohms
Alarm Connector	DB9 - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.7" high X 17.0" deep
Power	100 - 240 ±10% VAC, 47 - 63 Hz, 25 watts max.



Available Options

W31 0 to +50 degrees C operation

Remote M&C Interfaces:

W8 - Ethernet; w/Web Browser (WB)
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet
W828 - W8 +W18 + W28

Connectors/Impedance

Std. - 50Ω BNC (RF), 50Ω BNC (IF)
N N- 50Ω N-type (RF), 50Ω N-type (IF)
M - 50Ω N-type (RF), 50Ω BNC (IF)
S- 50Ω, SMA (RF), 50Ω BNC (IF)
SS- 50Ω, SMA (RF), 50Ω SMA (IF)

Contact Cross for other options

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