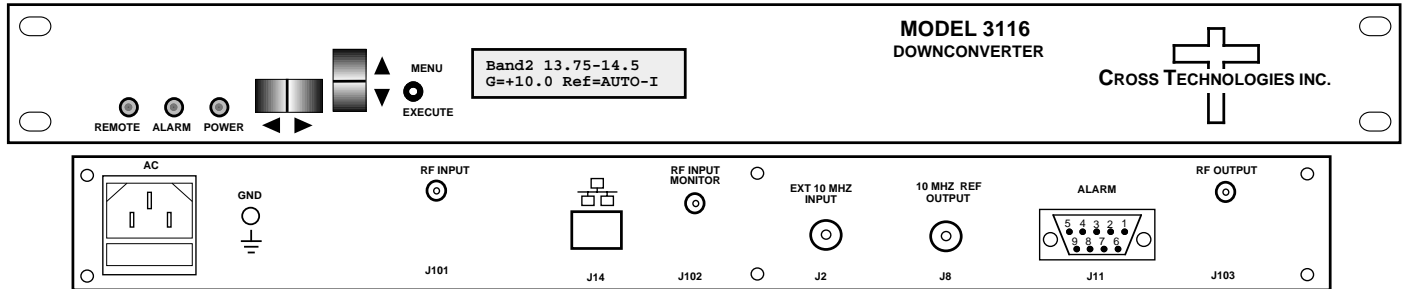


3116-21-137 Dual Band Block Downconverter, 5.85-6.65, 13.75-14.5 GHz

The 3116-21-137 Block Downconverter converts one of two RF bands to 0.95 - 1.75 GHz. The gain is $+20 \pm 2$ dB maximum and is adjustable in 0.5 ± 0.5 dB steps from +20 to -10 dB. Front panel LEDs provide indication of Remote operation, PLL Alarm and DC Power. Frequency, 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 stays in external if the external level is $+1$ to $+8$ dBm. The 3116 is powered by a $100-240 \pm 10\%$ VAC power supply, and housed in a $1 \frac{3}{4} \times 19 \times 14$ inch rack mount chassis.



Front Panel and Rear Panel (shown with optional Ethernet)

EQUIPMENT SPECIFICATIONS**

Input Characteristics

Impedance/RL 50Ω/14 dB
 Frequency (GHz) BAND 1 - 5.85 to 6.65
 BAND 2 - 13.75 to 14.5
 Noise Figure, Max. 15 dB max gain
 Input Level range **-20 to 0 dBm**

Output Characteristics

Impedance/RL 50 Ω /14 dB; **RF MON 12dB**
 Frequency (GHz) BAND 1 - 0.95 to 1.75
 BAND 2 - 0.95 to 1.70
 Output Level Range -20 to 0 dBm
 Output 1 dB compr. **+10 dBm, at max gain**

Channel Characteristics

Gain at F_c **+20 ±2 dB**, (+20 to -10 dB variable in 0.5 ± 0.5 dB steps); **RF MON, 0 ±2 dB**
 Image Rejection > 60 dB, min
 Spurious, Inband **BAND 1 SIGNAL RELATED <-40** DBC in band, -20 to 0 dBm out; SIGNAL INDEPENDENT, <-60 dBm
BAND 2 SIGNAL RELATED <-55 DBC in band, -20 to 0 dBm out; SIGNAL INDEPENDENT, <-60 dBm
<-50 dBm spurious, signal independent; 0.5 to 2.5 GHz out
 Spurious, Out of band <-50 dBc for two carriers at **4 MHz spacing**, each at -5 dBm out
 Intermodulation ±2 dB, over RF band; ± 0.5 dB, 40 MHz BW
 Frequency Response Non-inverting
 Frequency Sense Non-inverting

LO Characteristics

LO Frequency **Band 1, 4.9 GHz; Band 2, 12.8 GHz**
 Frequency Accuracy ± 0.05 ppm max over temp internal reference; ext. ref. input
 10 MHz In/Out Level 3 dBm, ± 3 dB, w/ Auto-detect

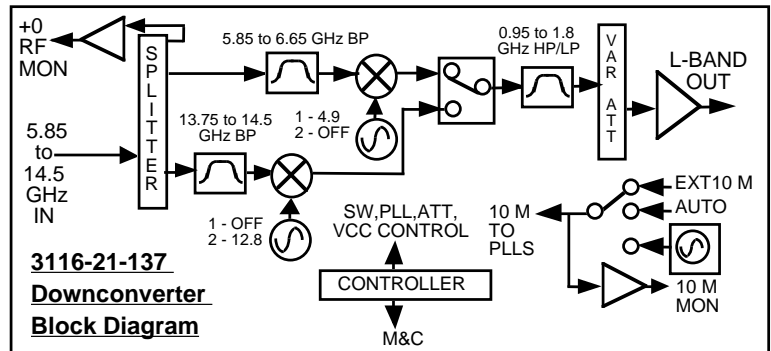
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	70	80	85	100	110

Controls, Indicators

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 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

M - 50Ω N-type (RF), 50Ω BNC (L-BAND)
 N - 50Ω N-type (RF), 75Ω BNC (L-BAND)
 S7 - 50Ω SMA (RF), 75Ω BNC (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