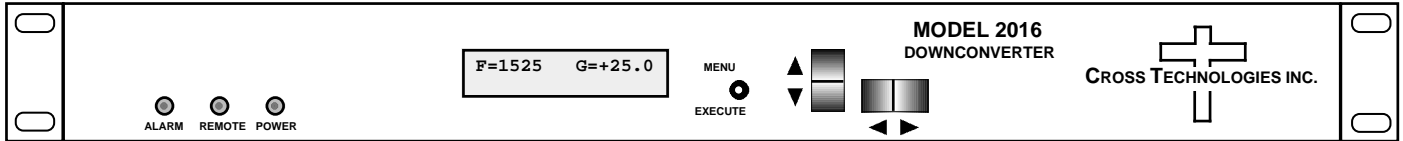


**2016-04 Downconverter, 950 - 2150 MHz, 140 MHz IF**

The 2016-04 Downconverter converts 950 to 2150 MHz to 140 ± 36 MHz in 1 MHz steps with low group delay and flat frequency response. Synthesized local oscillators (LO) provide frequency selection. Multi-function push button switches select the input frequency, gain, and other parameters. Front panel LEDs provide indication of DC power, PLL alarm or Remote operation. Gain is adjustable manually (MGC) over a 0 to 50 dB range. The frequency and gain are remotely selectable. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are Type F female for the RF, and BNC female for the IF and optional external 10 MHz reference input and output (option E). Other connector options are available. LNB +24 VDC (option L) and 10 MHz reference (option E) can be inserted on the RF lines. The 2016-04 is powered by a **100-240 ±10% VAC** power supply, and is contained in a 1 3/4" X 19" X 16" rack mount chassis.



**Front Panel**

**EQUIPMENT SPECIFICATIONS\***

**Input Characteristics (RF)**

Impedance/Return Loss 75Ω /12 dB  
 Frequency 950 to 2150 MHz  
 Noise Figure, max. 15 dB (max gain)  
 Input Level Range -70 to -20 dBm  
 Input 1dB compression -15 dBm

**Output Characteristics (IF)**

Impedance/Return Loss 75Ω/18 dB  
 Frequency 140 ± 36 MHz  
 Output level/max. linear -20dBm / -10dBm  
 Output 1 dB compression -5 dBm

**Channel Characteristics**

Gain range (adjustable) 0.0 to +50.0 dB, 1dB steps  
 Image Rejection > 50 dB, min.  
 Frequency Response ±1.5 dB, 950 to 2150 MHz ; ± 0.5 dB, 72 MHz BW  
 Spurious Response < -50 dBc, in band  
 Group Delay, max 0.0035 ns/MHz<sup>2</sup> parabolic; 0.025 ns/MHz linear; 1 ns ripple  
 Frequency Sense Inverting or Non-inverting (user selectable)

**Synthesizer Characteristics**

Frequency Accuracy ± 1.0 ppm internal reference (±.01 ppm, option H)  
 Frequency Step 1.0 MHz minimum  
 10 MHz In/Out Level 3 dBm ± 3 dB (option E)

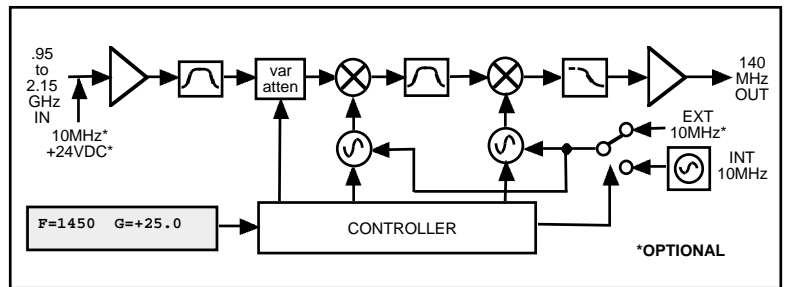
Phase Noise @ Freq	100Hz	1kHz	10kHz	100kHz	1MHz
dBC/Hz	-70	-70	-80	-90	-100

**Controls, Indicators**

Freq/Gain Selection Direct readout LCD; manual or remote selection  
 Power; Alarm; Remote Green LED; Red LED; Yellow LED  
 Remote RS232C, 9600 baud (RS485, option Q)

**Other**

RF, IF Connectors Type F (female), BNC (female)  
 10MHz Connectors BNC (female), 50Ω/75Ω (option E)  
 Alarm/Remote Connector DB9 (female) - NO or NC contact closure on Alarm  
 Size 19 inch, 1RU standard chassis 1.75" high X 16.0" deep  
 Power **100-240 ±10% VAC**, 47-63 Hz, 45 W max.



**Block Diagram**

**Available Options**

- E - External 10 MHz ref input & output w/ RF insertion
- L - LNB Voltage, +24VDC, 0.4 amps
- H - High Stability (±0.01) Internal Ref.
- Q - RS485 Remote Interface
- T - Temperature Sensor
- W18** - Ethernet M&C Remote Interface with SNMP

**Connectors-Impedance**

- B - 75Ω BNC (RF), 75Ω BNC (IF)
- C - 50Ω BNC (RF), 75Ω BNC (IF)
- D - 50Ω BNC (RF), 50Ω BNC (IF)
- N - 50Ω N-type (RF), 75Ω BNC (IF)
- M - 50Ω N-type (RF), 50Ω BNC (IF)

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

