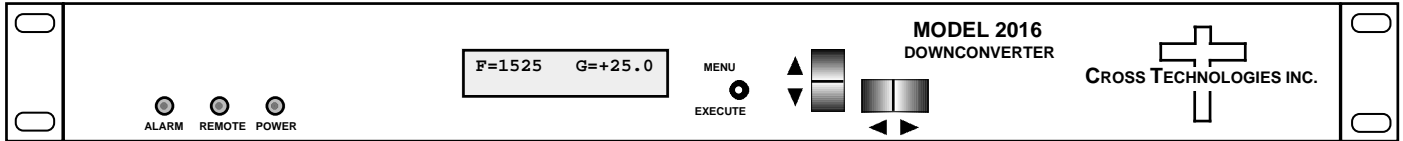


2016-04 Downconverter, 950 - 2150 MHz, 140 MHz IF

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 $\pm 10\%$ 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 75 Ω /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 75 Ω /18 dB
 Frequency 140 \pm 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/MHz² 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 (± 0.01 ppm, option H)
 Frequency Step 1.0 MHz minimum
 10 MHz In/Out Level 3 dBm \pm 3 dB (option E)

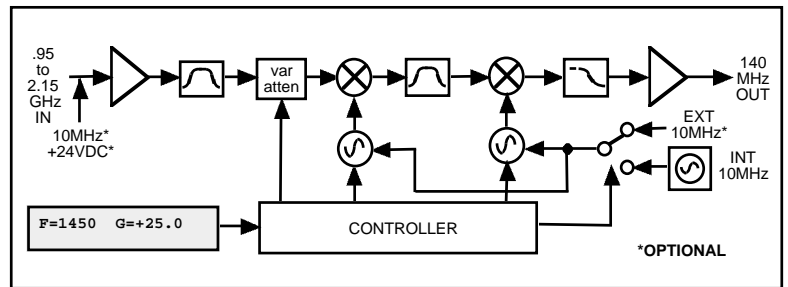
Phase Noise @ Freq	100Hz	1kHz	10kHz	100kHz	1MHz
dBC/Hz	-70	-70	-80	-90	-100

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), 50 Ω /75 Ω (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 $\pm 10\%$ 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 - 75 Ω BNC (RF), 75 Ω BNC (IF)
- C - 50 Ω BNC (RF), 75 Ω BNC (IF)
- D - 50 Ω BNC (RF), 50 Ω BNC (IF)
- N - 50 Ω N-type (RF), 75 Ω BNC (IF)
- M - 50 Ω N-type (RF), 50 Ω BNC (IF)

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