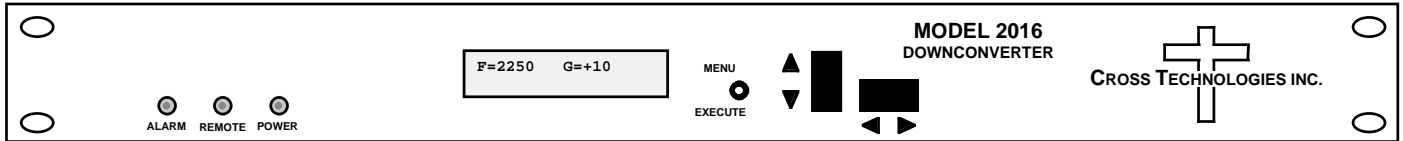


**2016-25 Downconverter, 2.0 - 2.5 GHz to 70 MHz**

The 2016-25 Downconverter converts 2000 to 2500 MHz to 70 ± 18 MHz in 1 MHz step (**500 kHz, option -5**) with low group delay and flat frequency response. Synthesized local oscillators (LO) provide frequency selection. Multi-function push button switches select the RF frequency and gain. Front panel LEDs provide indication of DC power (green), remote operation (yellow), and PLL alarm (red). Variable attenuators for the RF input provide a gain range of 0 to +50 dB as adjusted by the front panel multi-function pushbutton switches. Frequency and gain settings appear on the LCD display. Connectors are BNC female for RF, IF and optional 10 MHz Input and Output signals (**option E**). The unit is powered by a 100-240 ±10% VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.



**Front Panel**

**EQUIPMENT SPECIFICATIONS\***

**Input Characteristics (RF)**

Impedance/Return Loss 50Ω / 12 dB  
Frequency 2.0 to 2.5 GHz  
Level Range -70 to -20 dBm  
Input 1dB compression -15 dBm

**Output Characteristics (IF)**

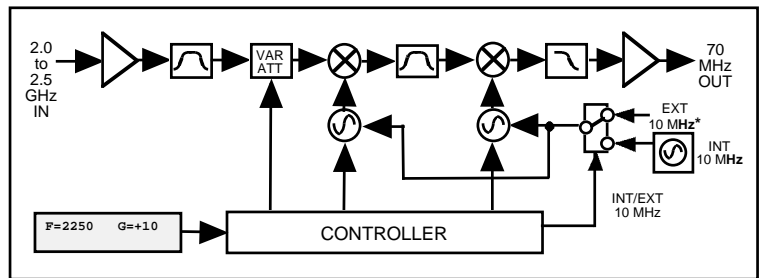
Impedance/Return Loss 75Ω / 18 dB  
Frequency 70 ± 18 MHz  
Level Range -30 to -20 dBm  
Output 1 dB compression -15 dBm

**Channel Characteristics**

Gain range (adjustable) 0.0 to +50.0 dB  
Image Rejection > 50 dB, min.  
Frequency Response ±1.5 dB, 2.0 - 2.5 GHz; ± 0.5 dB, 36 MHz BW  
Spurious Response < -45 dBC, in band  
Group Delay, max 0.01 ns/MHz<sup>2</sup> parabolic; 0.03 ns/MHz linear; 1 ns ripple  
Frequency Sense Inverting or Non-inverting (selectable)

**Synthesizer Characteristics**

Frequency Accuracy ±1.0 ppm internal reference (±0.01 ppm, **option H**)  
Frequency Step 1.0 MHz (500 kHz, **option -5**) (125 kHz, option X)  
10 MHz In/Out Level +3 dBm ± 3 dB (**option E**)



**Block Diagram**

Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBC/Hz	-70	-70	-80	-95	-105

**Controls, Indicators**

Freq/Gain Selection direct readout LCD; manual or remote selection  
Pwr; Alarm; Rem; Mute Green LED; Red LED; Yellow LED; Red LED  
Remote RS232C, 9600 baud (RS485, **option Q**)

**Other**

RF, IF Connectors 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

**Available Options**

- E - External 10 MHz ref input 7 output
- H - Stability internal reference (±0.01 ppm)
- L - LNB +24VDC, 0.4 Amps, current readout
- Q - RS-422/RS-485 Remote capability
- T - Temperature Sensor
- V - SSPB +24 VDC, 2.5 Amps max, with readout of current
- X - 125 kHz step size
- W1 - Output Level Detector
- W8 - Ethernet M&C Remote Interface
- Z - Attenuator 0.1 dB step size
- 5 - 500 kHz frequency steps
- Connectors/Impedance
- B - 75Ω 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