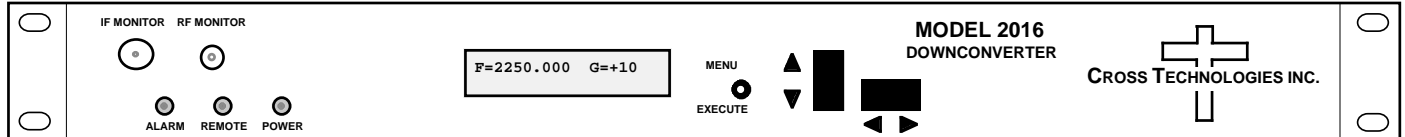


**2016-25-01 Downconverter, 2.0 - 2.5 GHz to 70 MHz**

The 2016-25 Downconverter converts **2000 to 2500 MHz** to  $70 \pm 18$  MHz in **100 KHz steps** 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 **N-Type for RF, BNC female for IF and 10 MHz Input and Output signals**. The unit is powered by a 100-240  $\pm 10\%$  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  $70 \pm 18$  MHz  
 Level Range -30 to -20 dBm  
 Output 1 dB compression -15 dBm

**Channel Characteristics**

Gain range (adjustable) **0 to 50 dB in 1 db steps**  
 Image Rejection > 50 dB, min.  
 Frequency Response  $\pm 1.5$  dB, **2.0 - 2.5 GHz**;  $\pm 1.0$  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  **$\pm 0.01$  ppm internal reference**  
 Frequency Step **100 KHz**  
 10 MHz In/Out Level **+3 dBm  $\pm$  3 dB w/Auto-detect feature**

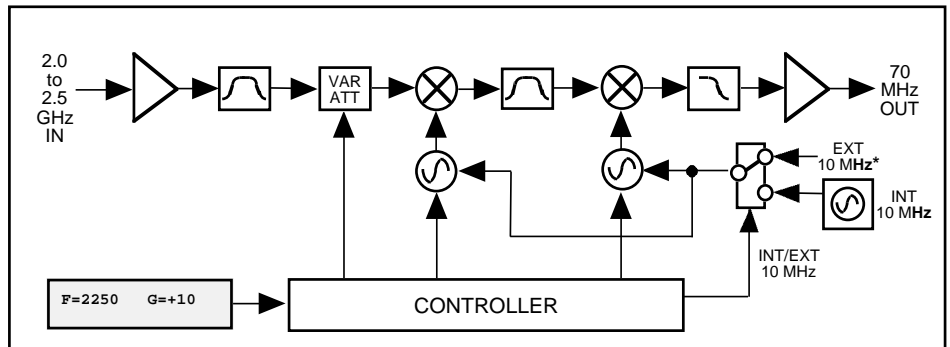
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-70	-70	-80	-95	-105

**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 **Ethernet, with SNMP**

**Other**

RF, IF Connectors **N-type (female) (RF), BNC 50Ω (female) (IF)**  
 10MHz Connectors BNC (female), 50Ω/75Ω  
 Alarm/Remote Connector DB9 (female) - NO or NC contact closure on Alarm / RJ45 Ethernet  
 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



**2016-25-01 Block Diagram**

**ALL STANDARD INCLUDED Options**

- W7 - Front Panel, RF (SMA) and IF (BNC 50Ω) Monitor Ports,
- W13 - Rear Panel, LO Monitor Port, SMA
- W16 - Individual Test/Calibration Data

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