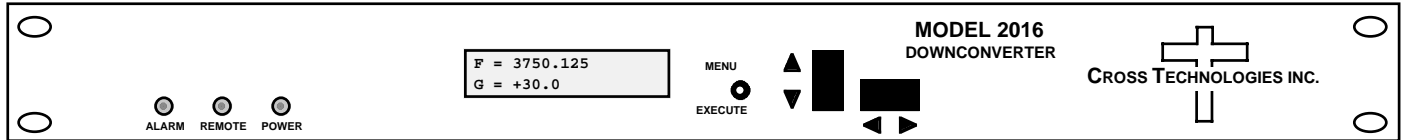


**2016-37 Downconverter, 3.625 - 4.2 GHz**

The 2016-37 Downconverter converts 3.625 to 4.2 GHz in 125 kHz steps to 70 ± 18 MHz with low group delay and flat frequency response. Synthesized local oscillators (LO) provide very low phase noise and ±1.0 ppm stability frequency selection. Multi-function push button switches select the RF frequency, gain, and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), and remote operation (yellow). Gain is adjustable manually over a +30 to +50 dB range as adjusted by the front panel multi-function push-button switches. Remote operation allows selection of frequency and gain. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are BNC (female) for IF output and the 10MHz reference input and output, and Type N (female) for the RF input. External 10 MHz is standard. A 10 MHz output connector contains either the internal or external 10 MHz reference signal. The unit is powered by a 90-260 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/14 dB  
 Frequency 3.625 to 4.2 GHz  
 Level -70 to -30 dBm  
 1dB compression -15 dBm

**Output Characteristics (IF)**

Impedance/Return Loss 75Ω/18 dB  
 Frequency 70 ± 18 MHz  
 Level -25 to -5 dBm  
 1dB compression +5 dBm

**Channel Characteristics**

Gain range (adjustable) +30 to +50 dB  
 Image Rejection > 50 dB, min  
 Spurious Response <-50 dBc  
 Frequency Response ±1.5 dB, 3.625-4.2 GHz ; ± 0.6 dB, 36 MHz BW  
 Group Delay, max 0.01 ns/MHz<sup>2</sup> parabolic; 0.03 ns/MHz linear; 1 ns ripple  
 Frequency Sense Non-inverting

**Synthesizer Characteristics**

Frequency Accuracy ± 1.0 ppm internal reference; external reference input  
 Frequency Step 125 kHz minimum  
 10 MHz In/Out Level 3 dBm ± 3 dB  
 Phase Noise @ Freq | 100Hz 1kHz 10kHz 100kHz 1MHz  
 dBc/Hz | < -60 < -70 < -80 < -90 < -100

**Controls, Indicators**

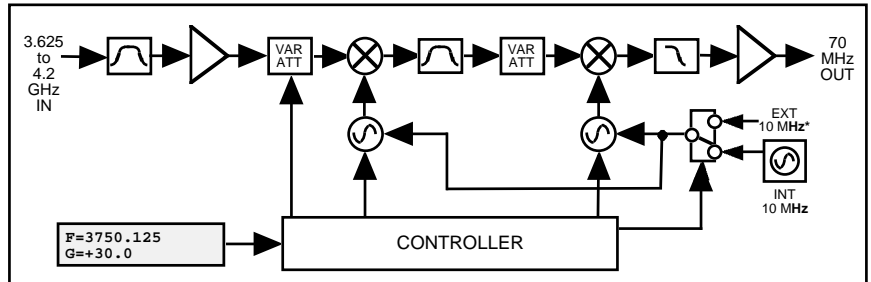
Freq/Gain Selection direct readout LCD; pushbutton switches or remote selection  
 Power; Alarm; Remote Green LED; Red LED; Yellow LED  
 Remote RS232C, 9600 baud

**Other**

RF Connector Type N (female)  
 IF Connector BNC (female)  
 10 MHz Connectors BNC (female), 50Ω/75Ω  
 Alarm/Remote Connector DB9 - NO or NC contact closure on Alarm  
 Size 19 inch, 1RU standard chassis 1.75"high X 16.0" deep  
 Power 90-260 VAC, 47-63 Hz, 45 watts max

**Available Options**

Q - RS485/RS422 Remote Interface  
 Connectors/Impedance  
 M - 50Ω Type N (RF), 50Ω BNC (IF)



**Block Diagram**

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