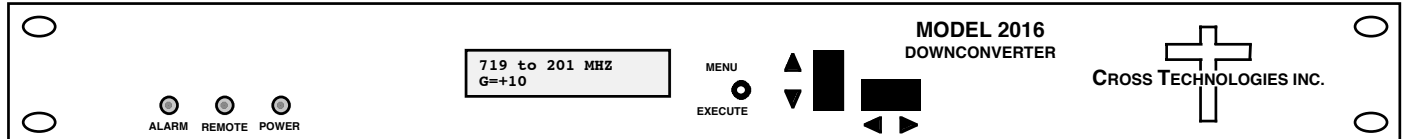


## 2016-75-213 Downconverter, 719 MHz to 201 or 213 MHz

The 2016-75-213 Downconverter converts **719 MHz** to **201 or 213 ± 3 MHz** with low group delay and flat frequency response. Synthesized local oscillators (LO) provide output frequency selection. Multi-function push button switches select the output frequency, gain, and other parameters. 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 **+40 dB** as adjusted by the front panel multi-function pushbutton switches. Remote operation allows selection of output frequency and gain. Parameter selection and frequency translation and gain settings appear on the LCD display. Connectors are Type F female for the RF and BNC female for IF and optional 10 MHz input and output signals (option -E). A high stability ( $\pm 0.01$  ppm) (option -H) is also available. 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 75Ω / 12dB  
 Frequency **719 MHz ± 3 MHz**  
 Noise Figure, max. 15 dB (max gain)  
 Level Range **-60 to -20 dBm**  
 Input 1dB compression -15 dBm

#### Output Characteristics (IF)

Impedance/Return Loss 75Ω / 12dB  
 Frequency **201 or 213 ± 3 MHz**  
 Level Range -30 to -20 dBm  
 Output 1 dB compression -15 dBm

#### Channel Characteristics

Gain range (adjustable) 0.0 to **+40.0 dB**  
 Image Rejection > 50 dB, min.  
 Frequency Response **201 or 213 ± 3 MHz out** ;  $\pm 0.5$  dB  
 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 **Non-inverting**

#### Synthesizer Characteristics

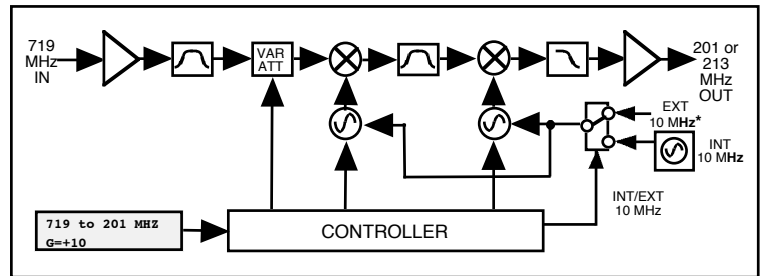
Frequency Accuracy  $\pm 1.0$  ppm internal reference ( $\pm 0.01$  ppm, **option H**)  
 Frequency Step None, 201 or 213 MHz out, selectable  
 10 MHz In/Out Level **+3 dBm ± 3 dB (option E)**  
 Phase Noise @ Freq | 100Hz 1kHz 10kHz 100kHz 1MHz  
 dBC/Hz | < -70 < -70 < -80 < -95 < -110

#### 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 Type F, 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  $\pm$  10% VAC, 47-63 Hz, 45 W max



**Block Diagram**

#### Available Options

E - External 10 MHz ref input & output  
 H - High Stability Internal Ref ( $\pm 0.01$  ppm)  
 Q - RS485 Remote Interface  
 X - 125 kHz Frequency Steps  
 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)**  
 S - 50Ω SMA (RF), 50Ω BNC (IF)

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