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 push button 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 (±0.01ppm) (option -H) is also available. 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.

**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; ±0.5 dB
- Spurious Response: < -45 dBc, in band
- Group Delay, max: 0.01 ns/MHz² parabolic; 0.03 ns/MHz linear; 1 ns ripple
- Frequency Sense: Non-inverting

**Synthesizer Characteristics**
- Frequency Accuracy: ±1.0 ppm internal reference (±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)

**Available Options**
- E - External 10 MHz ref input & output
- H - High Stability Internal Ref (±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)

**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 ± 10% VAC, 47-63 Hz, 45 W max

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