The 2017-02 L-band Up/Downconverter converts 70 MHz to 950-2150 MHz (Up) and 950-2150 MHz to 70 MHz (Down) in 1 MHz 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, gain, and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm for up and downconverters (red), remote operation (yellow), and Upconverter mute (yellow). Gain can be manually controlled over a -10 to +30 dB range for the upconverter and over a 0 to +50 dB range for the downconverter as adjusted by the front panel multifunction 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 and the optional external reference input and output, and Type F female for RF. LNB or SSPB +24 VDC and 10 MHz reference can be inserted on the RF lines as added options. A high stability (±0.01ppm) option is also available. It is powered by a 100-240 ±10% VAC power supply and housed in a 1.75” X 19” X 16” 1RU chassis.

**Equipment Specifications**

### UPCONVERTER

**Input Characteristics (IF)**
- Impedance/Return Loss: 75Ω/18 dB
- Frequency: 70 ± 18 MHz
- Level: -40 to -10 dBm

**Output Characteristics (RF)**
- Impedance/Return Loss: 75Ω/12 dB
- Frequency: 950 to 2150 MHz
- Level: -20 to 0 dBm
- 1dB compression: +5 dBm

**Channel Characteristics**
- Gain range (adjustable): -10 to +30 dB, 1dB steps
- Frequency Sense: Non-inverting

### DOWNCONVERTER

**Input Characteristics (RF)**
- Impedance/Return Loss: 75Ω/12 dB
- Frequency: 950 to 2150 MHz
- Noise Figure, max.: 15 dB (max gain)
- Level: -70 to -20 dBm
- 1dB compression: -15 dBm

**Output Characteristics (IF)**
- Impedance/Return Loss: 75Ω/12 dB
- Frequency: 70 ± 18 MHz
- Level: -20 dBm / -10 dBm
- 1dB compression: -5 dBm

**Channel Characteristics**
- Gain range (adjustable): 0 to +50 dB, 1dB steps
- Image Rejection: > 50 dB, min
- Frequency Sense: Inverting or Non-inverting (selectable)

**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 F (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: 100-240 ±10% VAC, 47-63 Hz, 45 watts max

**Available Options**
- E - External 10 MHz ref with RF insertion
- E1 - Ext. 10 MHz ref input & output
- w/Auto Detect/Switching & Auto Return
- H - High Stability (±0.01ppm) internal ref
- L - LNB Voltage, +24VDC, 0.4 amps
- V - SSPB Voltage, +24VDC, 2.5 amps
- Q - RS485 Remote Interface
- T - Temperature Sensor
- W8 - Ethernet M&C Remote Interface
- W18 - Ethernet M&C Remote Interface with SNMP
- X or X1 - 125 or 100 kHz steps

**Connectors/Impedance**
- B - 75Ω BNC (RF), 75Ω BNC (IF)
- C - 50Ω BNC (RF), 75Ω BNC (IF)
- D - 50Ω BNC (RF), 50Ω BNC (IF)
- J - 75Ω F-type (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*