The 2017-04A L-band Up/Downconverter converts 140 MHz to 950–2150 MHz (Up) and 950–2150 MHz to 140 MHz (Down) in 1 MHz steps with low group delay and flat frequency response. The 2017-04A has lower RF level out of the upconverter and higher RF level into the downconverter than the 2017-04 and is typically used to interface an L-band modem to a 140 MHz IF upconverter and downconverter. 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 adjusted over a -25 to +15 dB range for the upconverter and over a 0 to +50 dB range for the downconverter 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 and the optional external reference input and output, and Type F female for RF. A high stability (±0.01 ppm) 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.

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**EQUIPMENT SPECIFICATIONS**

**UPCONVERTER**

- **Input Characteristics (IF)**
  - Impedance/Return Loss: 75Ω/18 dB
  - Frequency: 140 ± 36 MHz
  - Level: -40 to -10 dBm

- **Output Characteristics (RF)**
  - Impedance/Return Loss: 75Ω/12 dB
  - Frequency: 950 to 2150 MHz
  - Level: -35 to -15 dBm
  - 1dB compression: -10 dBm

- **Channel Characteristics**
  - Gain range (adjustable): -25 to +15 dB, 1dB steps
  - Frequency Sense: Non-inverting

**DOWNCOMVERTER**

- **Input Characteristics (RF)**
  - Impedance/Return Loss: 75Ω/12 dB
  - Frequency: 950 to 2150 MHz
  - Noise Figure, max.: 15 dB (max gain)
  - Level: -60 to -10 dBm
  - 1dB compression: -5 dBm

- **Output Characteristics (IF)**
  - Impedance/Return Loss: 75Ω/12 dB
  - Frequency: 140 ± 36 MHz
  - Level: -10 to 0 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

**Available Options**

- E - External 10 MHz ref
- H - High Stability (±0.01 ppm) internal ref
- Q - RS485 Remote Interface
- T - Temperature Sensor
- X - 125 kHz frequency step
- B - 75Ω BNC (RF), 75Ω BNC (IF)
- C - 500 BNC (RF), 75Ω BNC (IF)
- D - 500 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)

**Front Panel**

The control menu page displays the input and output frequency and gain settings.

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**DATA SHEET**

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