2015-05 L-Band Upconverter

The 2015-05 L-band Upconverter converts 140 ± 36 MHz to 950 to 1525 MHz 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 (red), remote operation (yellow) or if the TX carrier is muted (yellow). Variable attenuators for the IF input and output provide a gain range of -10 to +30 dB 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 and the optional external reference input and output, and Type F female for the RF output. SSPB +24 VDC, 2.5 Amps and 10 MHz reference can be inserted on the RF line as added options. The 10 MHz option includes a 10 MHz output connector that contains either the internal or external 10 MHz reference signal. A high stability (±0.01 ppm) option is also available. The unit is powered by a 100-240 ±10% power supply, and housed in a 1 3/4" X 19 " X 16" rack mount chassis.

**EQUIPMENT SPECIFICATIONS**

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

**Output Characteristics**
- Impedance/Return Loss: 75 Ω/12 dB
- Frequency: 950 to 1525 MHz
- Output level: 0 to -20 dBm
- Output level/1 dB: +5 dBm

**Channel Characteristics**
- Gain range (adjustable): -10.0 to +30.0 dB
- Frequency Response: ±1.5 dB, 950 - 1525 MHz; ± 0.5 dB, 72 MHz BW
- Spurious Response: < -50 dBc, in band
- Group Delay, max: 0.0035 ns/MHz2 parabolic; 0.025 ns/MHz linear; 1 ns ripple
- Frequency Sense: Non-inverting

**Synthesizer Characteristics**
- Frequency Accuracy: ± 1.0 ppm max over temp (±0.01 ppm, option H)
- Frequency Step: 1.0 MHz (as low as 1 kHz steps available)

**10 MHz Level (In or Out)**
3 dBm, ± 3 dB, 75 ohms (option E)

**Controls, Indicators**
- Frequency Selection: direct readout LCD; manual or remote selection
- 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 Connector: Type F (female)
- IF Connectors: BNC (female)
- 10 MHz Conn. (In & Out): BNC (female) (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 watts max

**Available Options**
- E – External 10 MHz ref input & output w/RF insertion
- H – High Stability (±0.01 ppm) internal reference
- V – SSPB Voltage, 24VDC, 25 amps
- Q – RS484 Remote Interface
- T – Temperature Sensor
- Z5 – Attenuator 0.5 dB ± 0.5 dB steps

***+10 to +40 degrees C; Specifications subject to change with notice***