The 2015-04-720 L-band Upconverter converts 720 ± 36 MHz to 950 to 2150 MHz in 1 MHz steps (125 kHz to 1 kHz step options available). Synthesized local oscillators (LO) provide frequency selection. 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) and TX carrier MUTE (yellow). Variable attenuators for the IF input and RF output provide a gain range of 0 to +40 dB as adjusted by the front panel 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 75Ω BNC for the RF output.

SSPB +24 or +48 VDC inserted on the RF line is optional. External 10 MHz option E includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal that can also be inserted on the RF line. A high stability option H (±0.01ppm) is also available. It 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 (IF)**
- **Impedance/Return Loss**: 50 Ω/14 dB, 16 dB typ.
- **Frequency**: 720 ± 36 MHz
- **Input Level**: -50 to -20 dBm

**Output Characteristics (RF)**
- **Impedance/Return Loss**: 75 Ω/12 dB
- **Frequency**: 950 to 2150 MHz
- **Output level**: 0 to -20 dBm
- **Output 1 dB comp.**: +10 dBm

**Channel Characteristics**
- **Gain, Maximum**: +40.0 ±1 dB at 1.45 GHz
- **Gain range (adjustable)**: 0 to +40.0 dB, 1 ±1 dB steps
- **Frequency Response**: ±1.5 dB, 950 - 2150 MHz; ± 0.75 dB, 72 MHz BW; ±1.0 dB, 80 MHz BW
- **Spurious Response**: < -50 dBc, in band
- **Group Delay, max**: 0.0035 ns/MHz² parabolic; 0.035 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 (125 kHz to 1 kHz step options available)

**Phase Noise @ F (Hz) >** dBc/Hz: 10, 100, 1K, 10K, 100K, 1M

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

**Controls, Indicators**
- **Freq/Gain Selection**: direct readout LCD; manual or remote selection
- **Pwr; Alarm; Rem; Mute**: Green LED; Red LED; Yellow LED; Yellow LED
- **Remote**: RS232C, 9600 baud (RS485, Ethernet Optional)

**Other**
- **RF, IF Connectors**: 75 Ω BNC (female), 50 Ω BNC (female)
- **10 MHz Connectors**: BNC (female), 75Ω, works with 50 or 75 ohms (option E)
- **Alarm/Remote Connector**: DB9 (female) - NO or NC contact closure on Alarm
- **Size**: 19 inch, 1RU standard chassis 1.75” H X 16.0” D
- **Power**: 100-240 ±10% VAC, 47-63 Hz, 25 W max.

Available Options
- **E**: External 10 MHz ref in & out; RF Ins.
- **H**: High Stability (±0.01ppm) Internal Ref
- **V**: SSPB Voltage, +24VDC, 2.5 amps
- **V48**: SSPB Voltage, +48VDC, 1.25 A
- **X**: or X1 - 125 kHz or 100 kHz step size
- **Z**: Attenuator 0.1 dB steps, Upconverter

**Comm. Interface/Standard RS232**
- **Q**: RS485 Remote Interface
- **W**: Ethernet; w/Web Browser (WB)
- **W18**: Ethernet; w/WB & SNMP
- **W28**: Ethernet; w/TCP/IP, Telnet
- **W828**: Ethernet; W + W18 + W28

**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)

**Contact Cross for other options**