2019-42 Upconverter, Four Frequencies, 1.65-2.15 GHz

The 2019-42 Upconverter converts one 70 ± 18 MHz input signal to four individual frequencies (combined to one output) in the 1.65 to 2.15 GHz range and tunable in 1 MHz steps. Synthesized local oscillators (LO) provide frequency selection. Multi-function switches select the RF frequencies, gain, and other parameters. Front panel LEDs provide indication of DC power (green), Unit alarm (red), and remote operation (yellow). Variable attenuators for each channel provide a gain range of -10 to +10 dB as adjusted by the front panel multi-function switches. Remote operation allows selection of frequency, mute, and gain of each signal. The LCD will display parameter selection during setup and frequency and gain/mute settings during operation. Connectors are 75 ohm BNC female for IF and the optional external reference input and SMA for the combined four-frequency output. 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 (IF)
- Impedance/Return Loss: 75Ω/18 dB
- Frequency: 70 ± 18 MHz
- Input Level: -25 to -15 dBm

#### Output Characteristics (RF)
- Impedance/Return Loss: 50Ω/12 dB
- Frequency: 1.65 to 2.15 GHz
- Output level/carrier: -30 to -10 dBm
- Output 1 dB compression: +5 dBm
- Carrier Intermods: < -40 dBc, 3 ON, 1 OFF
- Carrier level variation: ± 1.5 dB, 1.65 to 2.15 GHz
- Mute level: -40 dBc min, -45 dBc typical

#### Channel Characteristics
- Gain range (adjustable): -10 to +10 dB, 1 dB steps
- Spurious Response: < -40 dBc, 1.65 to 2.15 GHz (non-intermod related)
- Frequency Response: ± 0.7 dB, 36 MHz BW
- Group Delay, max: 0.015 ns/MHz linear, 1 ns ripple
- Frequency Sense: All four frequencies non-inverting

#### Synthesizer Characteristics
- Frequency Accuracy: ± 1.0 ppm internal reference; external reference optional
- Frequency Step: 1.0 MHz minimum
- 10 MHz In Level: 3 dBm ± 3 dB (for option -E)

#### Controls, Indicators
- Pwr; Alarm; Rem; Mute: Green LED; Red LED; Yellow LED; "OFF" on LCD
- Remote: RS232C, 9600 baud
- Freq/Gain Selection: direct readout LCD; multi-function switches or remote selection

#### Other
- IF&10 MHz/ RF Connector: 75 ohm BNC (female)/ SMA
- 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, 30 watts max

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

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**Available Options**
- E - External 10 MHz Ref in
- Q - RS485 Remote Interface
- W8- Ethernet M&C Remote Interface
- C - 75Ω BNC (IF), 50Ω BNC (RF)
- D - 50Ω BNC (IF), 50Ω BNC (RF)
- F7 - 75Ω BNC (IF), 75Ω Type F (RF)
- S - 50Ω BNC (IF), 50Ω SMA (RF)