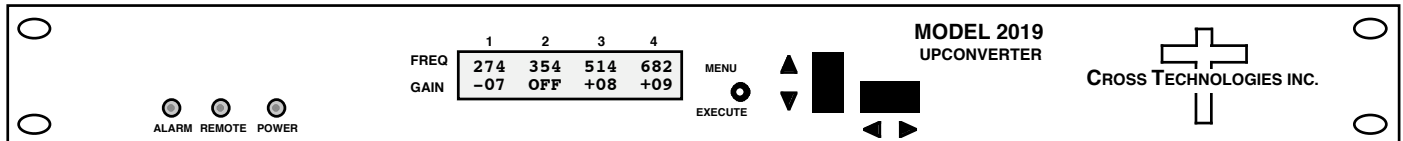


2019-41 Upconverter, Four Frequencies, 0.25-0.75 GHz

The 2019-41 Upconverter converts **one** 70 ± 18 MHz input signal to **four individual frequencies (combined to one output)** in the 0.25 to 0.75 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 $\pm 10\%$ VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics (IF)

Impedance/Return Loss 75 Ω /18 dB
Frequency 70 \pm 18 MHz
Input Level -25 to -15 dBm

Output Characteristics (RF)

Impedance/Return Loss 50 Ω /12 dB
Frequency 0.25 to 0.75 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, 0.25 to 0.75 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, 0.25 to 0.75 GHz (non-intermod related)
Frequency Response ± 0.7 dB, 36 MHz BW
Group Delay, max 0.015 ns/MHz² parabolic; 0.03 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)

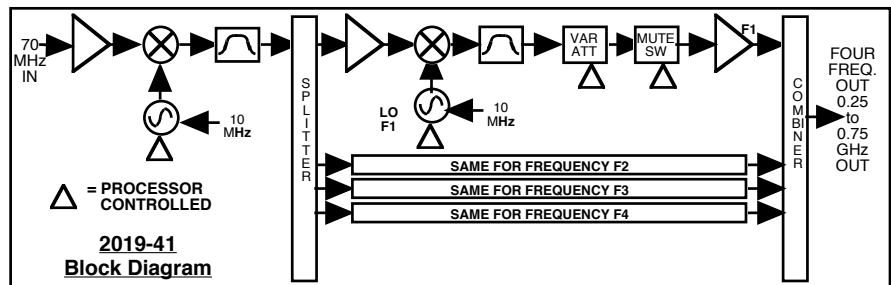
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBc/Hz	-70	-70	-80	-95	-110

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 $\pm 10\%$ VAC, 47-63 Hz, 45 watts max



Available Options

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

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

