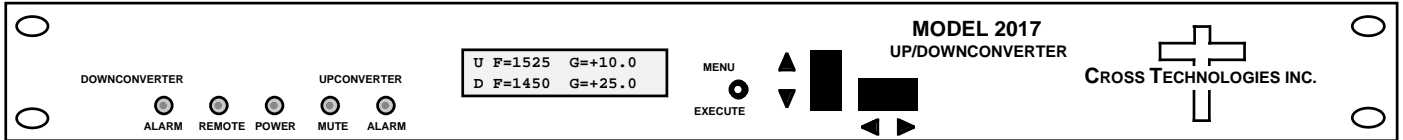


2017-04 Up/Downconverter, 950 - 2150 MHz, 140 MHz IF

The 2017-04 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. 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 for up and downconverters (red), remote operation (yellow), and Upconverter mute (yellow). Gain is manually controlled over a -10 to +30 dB range for the upconverter and over a 0 to +50 dB range for the downconverter 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 RF. LNB or SSPB +24 VDC and 10 MHz reference can be inserted on the RF lines as added options. A high stability (± 0.01 ppm) option is also available. It is powered by a 90-260 VAC power supply and housed in a 1.75" X 19" X 16" 1RU chassis.



Front Panel

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 -20 to 0 dBm
 1dB compression +5 dBm

Channel Characteristics

Gain range (adjustable) -10 to +30 dB, 1dB steps
 Frequency Sense Non-inverting

-----UP and DOWNCONVERTER-----

Channel Characteristics

Frequency Response ±1.5 dB, in band; ±0.5 dB, 72 MHz BW
 Spurious Response <-50 dBC
 Group Delay, max 0.0035 ns/MHz² parabolic; 0.025 ns/MHz linear; 1 ns ripple

Synthesizer Characteristics

Frequency Accuracy ± 1.0 ppm internal reference (± 0.01 ppm, **option H**)
 Frequency Step 1 MHz (125 kHz, **option X**)
 10 MHz In/Out Level 3 dBm ± 3 dB
 Phase Noise @ Freq | 100Hz 1kHz 10kHz 100kHz 1MHz
 dBc/Hz | < -70 < -70 < -80 < -90 < -100

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

Other

RF Connector Type F (female)
 IF Connector BNC (female)
 10 MHz Connectors BNC (female), 50Ω/75Ω
 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 90-260 VAC, 47-63 Hz, 45 watts max

-----DOWNCONVERTER-----

Input Characteristics (RF)

Impedance/Return Loss 75Ω /12 dB
 Frequency 950 to 2150 MHz
 Noise Figure, max. 15 dB (max gain)
 Level -70 to -20 dBm
 1dB compression -15 dBm

Output Characteristics (IF)

Impedance/Return Loss 75Ω/18 dB
 Frequency 140 ± 36 MHz
 Level/Max Linear -20 dBm / -10 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)

Available Options

- E - External 10 MHz ref with RF insertion
- H - High Stability (± 0.01 ppm) internal ref
- L - LNB Voltage, +24VDC, 0.4 amps
- V - SSPB Voltage, +24VDC, 2.5 amps
- Q - RS485 Remote Interface
- T - Temperature Sensor
- X- 125 kHz frequency step
- Connectors/Impedance
- B - 75Ω BNC (RF), 75Ω BNC (IF)
- C - 50Ω BNC (RF), 75Ω BNC (IF)
- D - 50Ω 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)

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