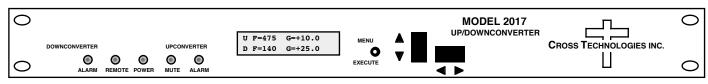


DATA SHEET

REV. A 10/12/11

2017-1351 Up/Downconverter, 130-512 MHz

The 2017-1351 L-band Up/Downconverter converts 70 MHz to 130-512 MHz (Up) and 130-512 MHz to 70 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 can be 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 multifunction 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 (±0.01ppm) option is also available. It is powered by a 100-240 ±10% VAC power supply and housed in a 1.75" X 19" X 16" 1RU chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

-----UPCONVERTER-----

 $\begin{array}{ll} \underline{\text{Input Characteristics (IF)}} \\ \underline{\text{Impedance/Return Loss}} & 75\Omega \, / 18 \, \text{dB} \end{array}$

Frequency $70 \pm 18 \text{ MHz}$ Level -40 to -10 dBm

Output Characteristics (RF)

Impedance/Return Loss75Ω/10 dBFrequency130 to 512 MHzLevel-20 to 0 dBm1dB 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, 36 MHz BW

Spurious Response <-50 dBC

Group Delay, max 0.01 ns/MHz² parabolic; 0.03 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 @ F (Hz) >	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 (RS485 (Q), Ethernet (W8, W18) Optional) B - 75Ω BNC (RF), 75Ω BNC (IF)

Other

RF Connector Type F (female)
IF Connector BNC (female)

10 MHz Connectors BNC (female), $50\Omega/75\Omega$

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, 45 watts max

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

----DOWNCONVERTER-----

Input Characteristics (RF)

Output Characteristics (IF)

 $\begin{array}{ll} \mbox{Impedance/Return Loss} & 75 \Omega/18 \mbox{ dB} \\ \mbox{Frequency} & 70 \pm 18 \mbox{ MHz} \\ \mbox{Level/Max Linear} & -20 \mbox{ dBm / -10 dBm} \end{array}$

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

H - High Stability (±0.01ppm) internal ref

Q - RS485 Remote Interface

T - Temperature Sensor

W8 - Ethernet M&C Remote Interface

W18 - Ethernet w/SNMP M&C X- 125 Khz frequency steps

X1- 100 Khz frequency steps

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)