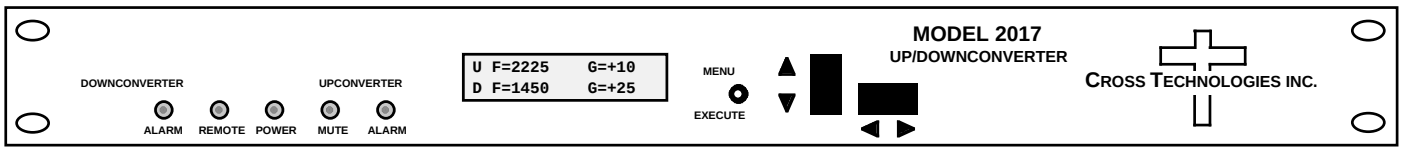
CROSS TECHNOLOGIES, INC.

DATA SHEET
REV. C
9/29/08

2017-35 Up/Downconverter, 2.0-2.5 GHz Up, 950-1525 MHz Down

The 2017-35 RF Up/Downconverter converts 950-1525 MHz to 70 MHz (Down) and 70 MHz to 2.0-2.5 GHz (Up) 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 BNC female for RF. 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----------

Input Characteristics (IF)

Impedance/Return Loss	75Ω /18 dB
Frequency	70 ± 18 MHz
Level	-40 to -10 dBm

Output Characteristics (RF)

Impedance/Return Loss	50Ω/12 dB
Frequency	2000 to 2500 GHz
Level	-20 to 0 dBm
1dB compression	+5 dBm

Channel Characteristics

Gain range (adjustable)	-10 to +30 dB
Frequency Sense	Non-inverting
Frequency Response	±1.5 dB, 2.0-2.5 GHz; ±0.5 dB, 36 MHz BW

---------DOWNCONVERTER---------

Input Characteristics (RF)

Impedance/Return Loss	50Ω /12 dB
Frequency	950 to 1525 MHz
Noise Figure, max.	15 dB (max gain)
Level	-70 to -20 dBm
1dB compression	-15 dBm at min. gain

Output Characteristics (IF)

Impedance/Return Loss	75Ω/18 dB
Frequency	70 ± 18 MHz
Level/Max Linear	-20 dBm / -10 dBm
1dB compression	-5 dBm

Channel Characteristics

Gain range (adjustable)	0 to +50 dB
Image Rejection	> 50 dB, min
Freq. Sense (selectable)	Inverting or Non-inverting
Frequency Response	±1.5 dB, 950-1525 MHz ±0.5 dB, 36 MHz BW

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

Channel Characteristics

Spurious Response	<-50 dBC
Group Delay, max	0.01 ns/MHz^2 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 (**option E**)

Phase Noise

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

Controls, Indicators

Freq/Gain Selection	direct readout LCD; manual or remote selection
Power; Alarm; Remote	Green LED; Red LED; Yellow LED
Remote	RS232C, 9600 baud (RS485, **option Q**)

Other

RF Connector	BNC (female), 50Ω
IF Connector	BNC (female), 75Ω
10 MHz Connectors	BNC (female), 50Ω/75Ω
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, 45 watts max

Available Options

E - External 10 MHz reference
H - High Stability (±0.01ppm) internal ref
L - LNB Voltage, +24VDC, 0.4 amps
Q - RS485 Remote Interface
T - Temperature Sensor
X- 125 Khz frequency steps

Connectors/Impedance
B - 75Ω BNC (RF), 75Ω BNC (IF)
N - 50Ω N-type (RF), 75Ω BNC (IF)
M - 50Ω N-type (RF), 50Ω BNC (IF)
S - 50Ω SMA (RF), 50Ω BNC (IF)

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

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