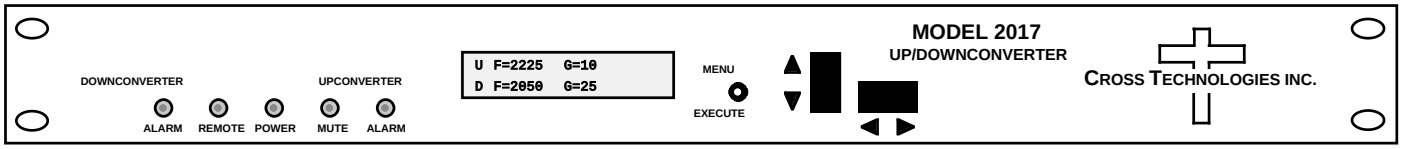
CROSS TECHNOLOGIES, INC.

DATA SHEET

REV. C
7/15/09

2017-25 Up/Downconverter, 2.0 - 2.5 GHz

The 2017-25 Up/Downconverter converts 70 MHz to 2000-2500 MHz (Up) and 2000-2500 MHz to 70 MHz (Down) in 1 MHz steps **(500 kHz, option -5)** 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 (75Ω) for IF and the optional external reference input and output, and BNC female (50Ω) for RF. A high stability (±0.01ppm) option is also available. The unit is powered by a 100-240 ±10% VAC power supply and housed in a 1.75" X 19" X 16" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

UPCONVERTER

Input Characteristics (IF)

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

Output Characteristics (RF)

Impedance/Return Loss	50Ω/10 dB
Frequency	2.0 to 2.5 GHz
Output level	-20 to 0 dBm
Output 1 dB compression	+5 dBm

Channel Characteristics

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

DOWNCONVERTER

Input Characteristics (RF)

Impedance/Return Loss	50Ω /10 dB
Frequency	2.0 to 2.5 GHz
Noise Figure, max.	15 dB (max gain)
Input Level Range	-70 to -20 dBm
Input 1dB compression	-15 dBm

Output Characteristics (IF)

Impedance/Return Loss	75Ω/18 dB
Frequency	70 ± 18 MHz
Output level/max linear	-20dBm / -10dBm
Output 1 dB compression	-5 dBm

Channel Characteristics

Gain range (adjustable)	0.0 to +50.0 dB, 1dB steps
Frequency Sense	Inverting or Non-inverting (selectable)

UP AND DOWNCONVERTER

Channel Characteristics

Frequency Response	±1.5 dB, in band ; ± 0.5 dB, 36 MHz BW
Spurious Response	< -50 dBc, in band
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 (±.01 ppm, option H)
Frequency Step	1.0 MHz (500 kHz, **option -5**, 125 kHz, option X)
10 MHz In/Out Level	3 dBm ± 3 dB (option E only)

Phase Noise @ F (Hz) >	*100*	*1K*	*10K*	*100K*	*1M*
dBC/Hz	*-70*	*-70*	*-80*	*-95*	*-105*

Controls, Indicators

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

Other

RF, IF Connectors	BNC (female), BNC (female)
10MHz Connectors	BNC (female), 50Ω/75Ω (**option E**)
Alarm/Remote Connector	DB9 (female) - 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 W max

Available Options

E - External 10 MHz ref input 7 output
H - Stability internal reference (±0.01 ppm)
L - LNB +24VDC,0.4 Amps, current readout
Q - RS-422/RS-485 Remote capability
T - Temperature Sensor
V - SSPB +24 VDC, 2.5 Amps max, with readout of current
X - 125 kHz step size
W1 - Output Level Detector
W8 - Ethernet M&C Remote Interface
Z - Attenuator 0.1 dB step size
-5 - 500 kHz frequency steps

Connectors/Impedance
B - 75Ω BNC (RF), 75Ω BNC (IF)
D - 50Ω BNC (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

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