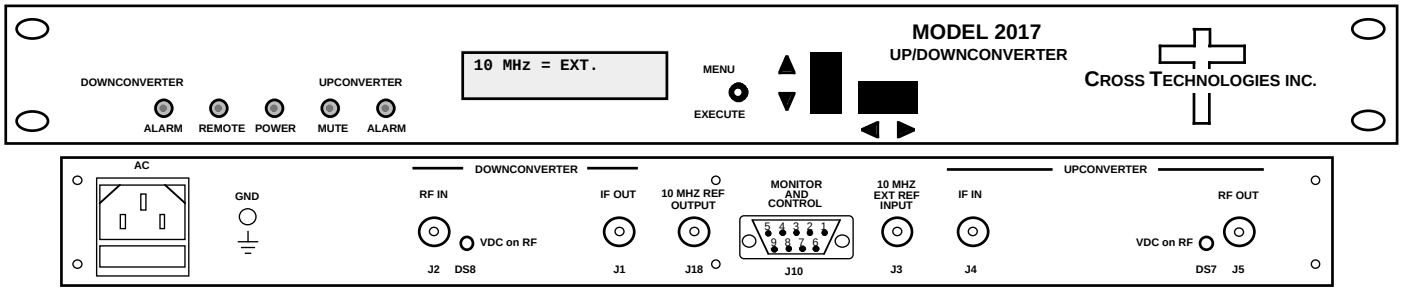
CROSS TECHNOLOGIES, INC.

DATA SHEET
Rev. C
10/26/11

2017-T03-400 Test Up/Downconverter, 1100 - 1275 MHz

The 2017-T03-400 Test L-band Up/Downconverter converts a **225-400 MHz block to/from the 1100-1275 MHz block with a fixed 875 MHz LO. The** 2017-T03-400 is used in applications such as connecting L-band modems to signals in the 225-400 MHz band. In this application, when converting 225-400 to L-band, the modem itself contains internal filtering making it unnecessary for the 2017-T03-400 to filter out all the other products **(LO; lower sideband is 30 dBC down).** In the 2017-T03-400 down conversion, because the L-band modem's transmit output is a clean signal with no image frequency, the signal can be converted to 225-400 with **minimum filtering (30 dBC min image rejection)**. Front panel LEDs indicate DC power, PLL alarm, and remote operation. **Connectors are 50 ohm BNC female for IF and RF.** It is powered by a 100-240 ± 10% VAC power supply and housed in a 1.75" X 19" X 16" 1RU chassis.



Front & Rear Panels (Front Panel shown with -E Option 10 MHz selection)

EQUIPMENT SPECIFICATIONS*

----------UPCONVERTER----------

Input Characteristics (IF)

Impedance/Return Loss	**50Ω /12 dB**
Frequency	**225-400 MHz block**
Level	**-40 to -10dBm**

Output Characteristics (RF)

Impedance/Return Loss	**50Ω /12 dB**
Frequency	**1100 to 1275 MHz block**
Level	**-40 to -10dBm**
1dB compression	**0 dBm**

Channel Characteristics

Gain	**0 ± 2 dB, fixed**
Frequency Sense	Non-inverting
Low Sideband Rejection	**30 dBC min, 40 dBC typical**

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

Input Characteristics (RF)

Impedance/Return Loss	**50Ω /12 dB**
Frequency	**1100 to 1275 MHz block**
Level	**-40 to -10dBm**

Output Characteristics (IF)

Impedance/Return Loss	**50Ω /12 dB**
Frequency	**225-400 MHz block**
Level	**-40 to -10dBm**
1dB compression	**0 dBm**

Channel Characteristics

Gain	**0 ± 2 dB, fixed**
Frequency Sense	Non-inverting
Image Rejection	**30 dBC min, 40 dBC typical**

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

Channel Characteristics

Frequency Response	**±1.5 dB, over band; ±0.75 dB, 36 MHz BW**
Spurious Response	**<-30 dBC, <-40 dBC typ., any 36 MHz band; Signal related**
Spurious Response, LO	**< 0 dBC, < -10 dBC typ at -10 dBm in and out; at L-band input and output.**
Group Delay, max	**0.015 ns/MHz^2 parabolic; 0.05 ns/MHz linear; 1 ns ripple any 36 MHz band**

Synthesizer Characteristics

Frequency Accuracy	± 1.0 ppm internal reference (±0.01 ppm, option H)
Frequency Step	**None, fixed 875 MHz LO**
10 MHz In/Out Level	3 dBm ± 3 dB (option E)

Phase Noise @ F (Hz) >	*100Hz*	*1kHz*	*10kHz*	*100kHz*	*1MHz*
dBC/Hz	*70*	*70*	*80*	*90*	*100*

Available Options
E - External 10 MHz ref w/Front Panel select
H - High Stability (±0.01ppm) internal ref

Controls, Indicators

Freq/Gain Selection	**None**
Power; Alarm;	Green LED; Red LED;
Remote	**RS232C, 9600 baud, to monitor alarm status only**

Other

RF Connector	**50Ω BNC (female)**
IF Connector	**50Ω BNC (female)**
10 MHz Connectors	BNC (female), 50Ω/75Ω (option E)
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, **25 watts max**

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

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