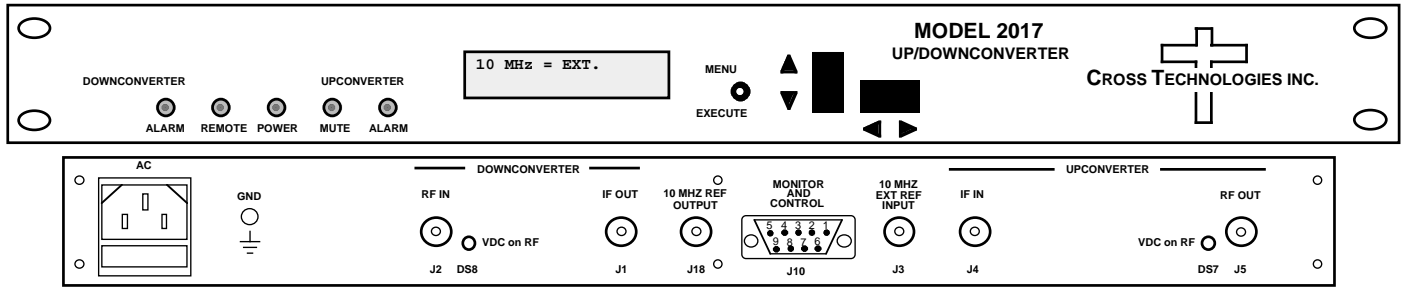


## 2017-T03-400 Up/Downconverter, 1100 - 1275 MHz

The 2017-T03-400 L-band Up/Downconverter for loop-back applications, 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**

#### -----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<sup>2</sup> 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

#### 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

#### -----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**

#### Available Options

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

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