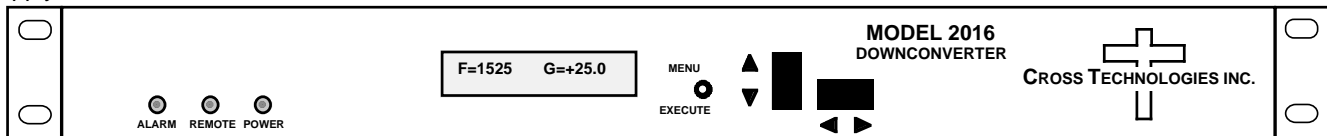


**2016-03 L-Band Downconverter**

**2016-03 L-Band Downconverter** - Converts 950 to 1525 MHz in 1 MHz steps to  $70 \pm 18$  MHz 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 (red), and remote operation (yellow). Gain is adjustable manually over a 0 to +50 dB range 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 output and the optional external reference input and output, and Type F female for the RF input. LNB +24 VDC, 0.4 Amps and 10 MHz reference can be inserted on the RF line as added options. The 10 MHz option also includes a 10 MHz output connector, which contains either the internal or external 10 MHz reference signal. A high stability ( $\pm 0.01$ ppm) option is also available. The unit is powered by a 100-240  $\pm 10\%$  VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.



**2016-03 DOWNCONVERTER**

**EQUIPMENT SPECIFICATIONS\***

**Input Characteristics**

Impedance/Return Loss	75 $\Omega$ /10 dB
Frequency	950 to 1525 MHz
Noise Figure, Max.	15 dB max gain
Input Level range	-20 to -70 dBm
Input 1 dB compression	-15 dBm

**Output Characteristics**

Impedance/Return Loss	75 $\Omega$ /18 dB
Frequency	70 $\pm$ 18 MHz
Output Level/max linear	-20/-10 dBm
Output 1 dB compression	-5 dBm

**Channel Characteristics**

Gain	0.0 to 50.0 dB, 1 dB steps (manually adjustable)
Image Rejection	> 50 dB, min
Spurious Response	<-50 dBC in band ( $\pm$ 18 MHz), -20 dBm out
Frequency Response	$\pm$ 1.5 dB, 950 -1525 MHz; $\pm$ 0.5 dB, 36 MHz BW
Group Delay, max	3 ns, 30 MHz, 5 ns, 36 MHz BW
Frequency Sense	Non-inverting

**Synthesizer Characteristics**

Frequency Accuracy	$\pm$ 1.0 ppm max over temp ( $\pm$ 0.01 ppm optional) internal reference; ext. ref. input, optional
Frequency Step	1.0 MHz minimum

Phase Noise @ Freq	100Hz	1kHz	10kHz	100kHz	1MHz
dBc/Hz	-70	-80	-80	-90	-100

External 10 MHz level 0 dBm,  $\pm$  3 dB, 75 ohms (option -E)

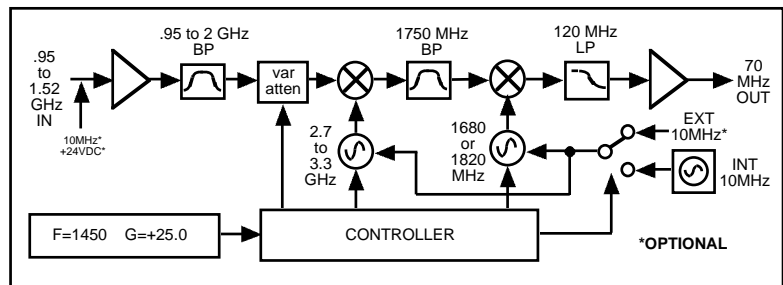
**Controls, Indicators**

Frequency Selection	direct readout LCD; manual or remote selection
Gain Selection	direct readout LCD; manual or remote selection
PWR; Alarm; Rem	Green LED; Red LED; Yellow LED
Remote	RS232C, 9600 baud (RS485 Option Q)

**Other**

RF Connector	Type F (female)
IF Connector	BNC (female)
10 MHz Connectors	BNC (female) (option-E)
Alarm/Remote Connector	DB9 (female) - NO or NC contact closure on Alarm
Size	19 inch standard chassis 1.75" high X 16.0" deep
Power	100-240 $\pm 10\%$ VAC, 47 - 63 Hz, 45 watts max.

\*+10 to +40 degrees C; Specifications subject to change without notice



**Available Options**

- E – External 10 MHz ref input & output w/ RF insertion
- H – High Stability ( $\pm 0.01$ ppm) internal reference
- L – LNB Voltage, +24VDC, 0.4 amps
- Q – RS485 Remote Interface
- T – Temperature Sensor
- Connectors/Impedance
- B – 75 $\Omega$  BNC (RF), 75 $\Omega$  BNC (IF)
- C – 50 $\Omega$  BNC (RF), 75 $\Omega$  BNC (IF)
- D – 50 $\Omega$  BNC (RF), 50 $\Omega$  BNC (IF)
- N – 50 $\Omega$  N-type (RF), 75 $\Omega$  BNC (IF)
- M – 50 $\Omega$  N-type (RF), 50 $\Omega$  BNC (IF)