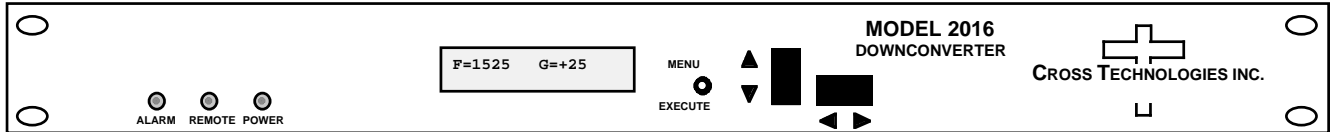


2016-02-160 L-Band Downconverter

The 2016-02-160 Downconverter converts 950 to 2150 MHz to 70 **OR 160 MHz (user selectable)** 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 input frequency, gain, **output frequency** and other parameters. Front panel LEDs provide indication of DC power, PLL alarm or Remote operation. Gain is adjustable manually (MGC) over a 0 to 50 dB range. The frequency and gain are remotely selectable. Parameter selection, **input and output** frequency and gain settings appear on the LCD display. Connectors are Type F female for the RF, and BNC female for the IF and optional external 10 MHz reference input and output (option -E). Table 2.2 shows other connector options. LNB +24 VDC (option -L) and 10 MHz reference (option -E) can be inserted on the RF lines. The 2016-02 is powered by a 100-240 \pm 10% VAC, 47-63 Hz power supply, and is contained in a 1 3/4" X 19" X 16" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance/Return Loss	75 Ω /10 dB
Frequency	950 to 2150 MHz
Noise Figure, Max.	15 dB max gain
Input Level range	-70 to -20 dBm
Input 1 dB compression	-15 dBm

Output Characteristics

Impedance/Return Loss	75 Ω /18 dB
Frequency	70 or 160 MHz \pm 18 MHz
Output Level/max linear	-20 / -10 dBm
Output 1 dB compression	-5 dBm

Channel Characteristics

Gain range (adjustable)	0.0 to +50.0 dB
Image Rejection	> 50 dB, min.
Frequency Response	\pm 1.5 dB, 950 to 2150 MHz ; \pm 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
Frequency Sense	Inverting or Non-inverting, selectable

Synthesizer Characteristics

Frequency Accuracy	\pm 1.0 ppm max over temp (\pm 0.02 ppm optional)
Frequency Step	1.0 MHz (as low as 1 kHz steps available)

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

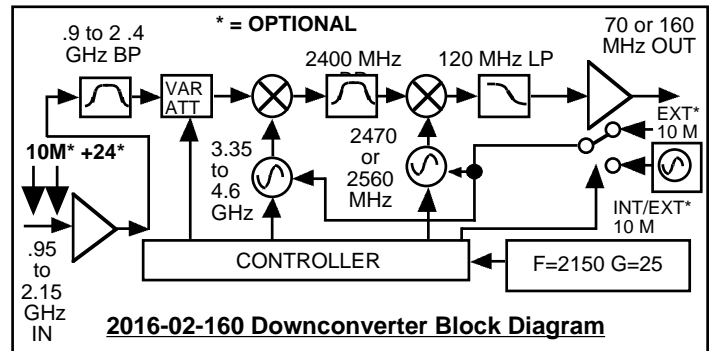
10 MHz Level (In or Out) 3 dBm, \pm 3 dB, 75 ohms (Option E)

Controls, Indicators

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

Other

RF Connector	Type F (female)
IF, 10 MHz Connectors	BNC (female) 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 \pm 10% VAC, 47-63 Hz, 45 watts max



2016-02-160 Downconverter Block Diagram

Available Options

- E - External 10 MHz ref input & output w/ RF insertion
- H - High Stability (\pm 0.01ppm) Internal Ref
- L - LNB Voltage, +24VDC, 0.4 amps
- Q - RS485 Remote Interface
- T - Temperature Sensor
- X - 125 kHz Frequency Step Size
- SW1 - Switch-system specific option

Connectors/Impedance

- STD - 75 Ω Type F (RF), 75 Ω BNC (IF)
- B - 75 Ω BNC (RF), 75 Ω BNC (IF)
- C - 50 Ω BNC (RF), 75 Ω BNC (IF)
- D - 50 Ω BNC (RF), 50 Ω BNC (IF)
- F - 75 Ω Type F (RF), 75 Ω BNC (IF)
- FN - 75 Ω Type N (RF), 75 Ω Type N (IF)
- J - 75 Ω Type F (RF), 50 Ω BNC (IF)
- K - 75 Ω BNC (RF), 50 Ω BNC (IF)
- M - 50 Ω Type N (RF), 50 Ω BNC (IF)
- N - 50 Ω Type N (RF), 75 Ω BNC (IF)
- S - 50 Ω SMA (RF), 50 Ω BNC (IF)

10°C to 40°C; Specifications subject to change without notice