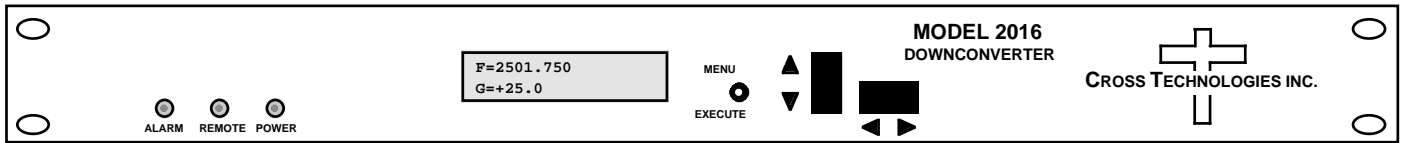


2016-1250 Fixed Frequency Downconverter, 2.50175 GHz

The 2016-1250 S-band Downconverter converts 2.50175 GHz (± 36 MHz) fixed to 140 (± 36) MHz with low group delay and flat frequency response. Synthesized local oscillators (LO) provide very low phase noise and ± 0.01 ppm stability frequency selection. Multi-function push button switches select the gain, and other variable parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), remote operation (yellow) or the TX carrier is muted (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 gain and other variable parameters. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are Type N (female) for the RF input and BNC (female) for IF output and optional external reference input / output. The External 10 MHz reference Option also includes a 10 MHz output connector, which provides the selected (internal or external) 10 MHz reference signal output. The unit is powered by a 90-260 VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss 50 Ω /12 dB
 Frequency 2.50175 GHz (± 36 MHz) Fixed
 Input Level Range -70 to -20 dBm
 Input 1dB compression -15 dBm

Output Characteristics (IF)

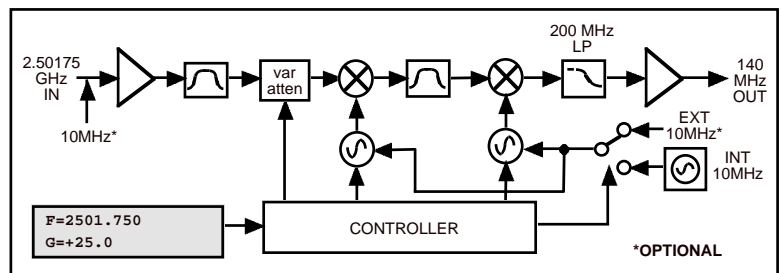
Impedance/Return Loss 75 Ω /18 dB
 Frequency 140 \pm 36 MHz
 Output level/max linear -20dBm / -10dBm
 Output 1 dB compression -5 dBm

Channel Characteristics

Gain range (adjustable) 0.0 to +50.0 dB
 Image Rejection > 50 dB, min.
 Frequency Response 2.50175 GHz ; ± 0.5 dB, 72 MHz BW
 Spurious Response < -60 dBc, in band, typical; -55 dBc max.
 Group Delay, max 0.0035 ns/MHz² parabolic; 0.025 ns/MHz linear; 1 ns ripple
 Frequency Sense Inverting or Non-inverting (selectable)

Synthesizer Characteristics

Frequency Accuracy $\pm .01$ ppm internal reference
 Frequency Step None; Fixed Frequency, non-tunable
 10 MHz In/Out Level 3 dBm \pm 3 dB (option E)
 Phase Noise @ Freq | 10Hz 100Hz 1kHz 10kHz 100kHz 1MHz
 dBc/Hz | <-65 < -77 < -82 < -90 < -102 < -110



Block Diagram

Controls, Indicators

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

Other

RF Connector N-type (female)
 IF Connector BNC (female)
 10MHz Connectors BNC (female) 50 Ω /75 Ω (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 90-260 VAC, 47-63 Hz, 45 W max

Available Options

E - External 10 MHz ref input & output
 Q - RS485 Remote Interface
 O - LO Adjust

Connectors/Impedance

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)
 M - 50 Ω N-type (RF), 50 Ω BNC (IF)

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