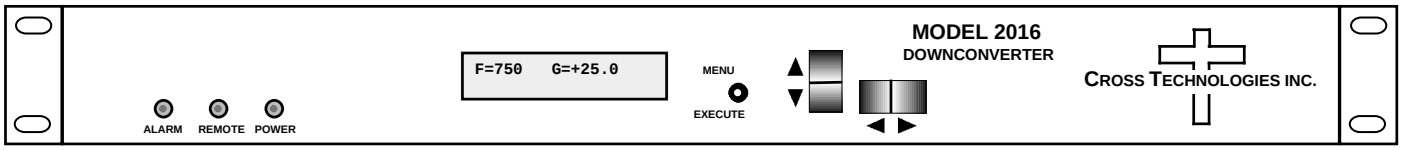
CROSS TECHNOLOGIES, INC.

DATA SHEET

REV. 0 8/17/09

2016-95 Downconverter, 250 - 950 MHz, 70 MHz IF

The 2016-95 Downconverter converts 250 to 950 MHz to 70 ± 18 MHz 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, 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 and 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). Other connector options are available. The 2016-95 is powered by a 100-240 ±10%VAC power supply, and is contained in a 1 3/4" X 19" X 16" rack mount chassis.



Front Panel

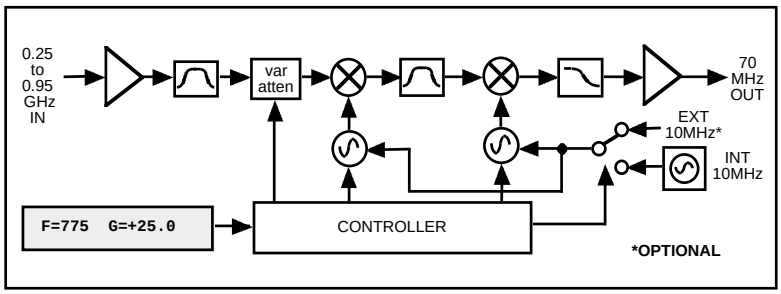
EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss	75Ω /12 dB
Frequency	250 to 950 MHz
Noise Figure, max.	15 dB (max gain)
Input Level Range	-70 to -20 dBm
Input 1dB compression	-15 dBm

Output Characteristics (IF)

Impedance/Return Loss	75Ω/18 dB
Frequency	70 ± 18 MHz
Output level Range	-20 to -10dBm
Output 1 dB compression	-5 dBm



Block Diagram

Channel Characteristics

Gain range (adjustable)	0.0 to +50.0 dB, 1dB steps
Image Rejection	> 50 dB, min.
Frequency Response	±1.5 dB, 250 to 950 MHz ; ± 0.5 dB, 36 MHz BW; ±1.0 dB, 40 MHz BW
Spurious Response	< -50 dBc, in band
Group Delay, max	**0.02 ns/MHz2 parabolic; 0.06 ns/MHz linear;** 1 ns ripple
Frequency Sense	Inverting or Non-inverting (user selectable)

Synthesizer Characteristics

Frequency Accuracy	± 1.0 ppm internal reference (±.01 ppm, option H)
Frequency Step	1.0 MHz minimum
10 MHz In/Out Level	3 dBm ± 3 dB (option E)

Phase Noise @ F (Hz) >	*100*	*1K*	*10K*	*100K*	*1M*
dBC/Hz	*-70*	*-70*	*-80*	*-90*	*-105*

Controls, Indicators

Freq/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, IF Connectors	Type F, 75Ω (female), BNC,75Ω (female)
10MHz Connectors	BNC (female), 50Ω/75Ω (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 ±10% VAC, 47 - 63 Hz, 45 watts max.

Available Options

E - External 10 MHz ref input & output
H - High Stability (±0.01) Internal Ref
Q - RS422/485 Remote Interface
T - Temperature Sensor
W8 - Ethernet M & C Remote Interface
X - 125 kHz step size

Connectors/Impedance

B - 75Ω BNC (RF), 75Ω BNC (IF)
C - 50Ω BNC (RF), 75Ω BNC (IF)
D - 50Ω BNC (RF), 50Ω BNC (IF)
K - 75Ω BNC (RF), 50Ω BNC (IF)
M - 50Ω N-type (RF), 50Ω BNC (IF)
N - 50Ω N-type (RF), 75Ω BNC (IF)

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

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