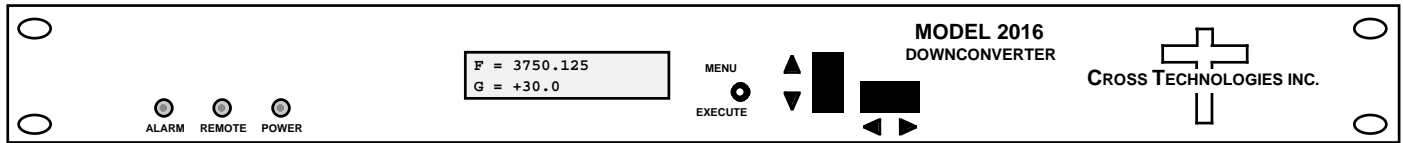


2016-34 Downconverter, 3.4 - 4.2 GHz to 70 MHz IF

The 2016-34 Downconverter converts 3.4 to 4.2 GHz in 1 kHz steps to 70 ± 18 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 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 +30 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 N female for the RF input. External 10 MHz is standard. A 10 MHz output connector contains either the internal or external 10 MHz reference signal. The unit is powered by a 100-240 ± 10% 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	50Ω/14 dB
Frequency	3.4 to 4.2 GHz
Noise Figure, max.	12 dB (max gain)
Level	-70 to -30 dBm
1dB compression	-15 dBm

Output Characteristics (IF)

Impedance/Return Loss	75Ω/18 dB
Frequency	70 ± 18 MHz
Level	-25 to -5 dBm
1dB compression	+5 dBm
Intermodulation	< -55 dBC; -60 dBC typ. (2 carriers @ -10 dBm input)

Channel Characteristics

Gain range (adjustable)	+30 to +50 dB
Image Rejection	> 50 dB, min
Spurious Response	<-50 dBC, in band
Frequency Response	±1.5 dB, 3.4-4.2 GHz ; ± 0.6 dB, 36 MHz BW
Group Delay, max	0.01 ns/MHz ² parabolic; 0.03 ns/MHz linear; 1 ns ripple
Frequency Sense	Non-inverting

Synthesizer Characteristics

Frequency Accuracy	± 0.01 ppm internal reference; external reference input
Frequency Step	1, 10, 100, or 125 kHz (user selectable)
10 MHz In/Out Level	3 dBm ± 3 dB

Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-70	-80	-88	-100	-120

Controls, Indicators

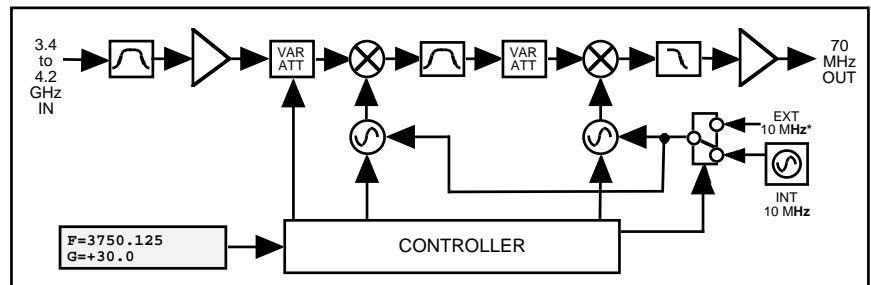
Freq/Gain Selection	direct readout LCD; pushbutton switches or remote selection
Power; Alarm; Remote	Green LED; Red LED; Yellow LED
Remote	RS232C, 9600 baud

Other

RF Connector	Type N (female)
IF Connector	BNC (female)
10 MHz Connectors	BNC (female), 50Ω/75Ω
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, 45 watts max

Available Options

Q - RS485/RS422 Remote Interface Connectors/Impedance
M - 50Ω Type N (RF), 50Ω BNC (IF)



Block Diagram

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