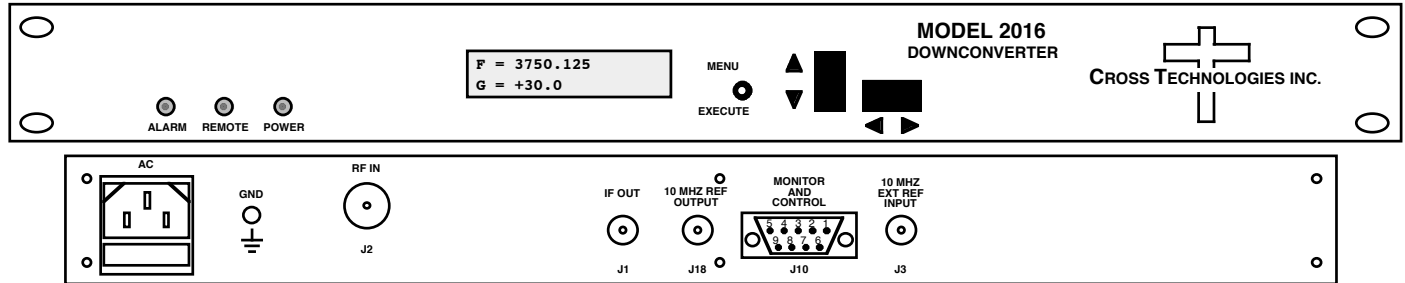


2016-35 Downconverter, 3.4 - 4.2 GHz to 70 ± 18 MHz

The 2016-35 Downconverter converts 3.4 to 4.2 GHz to 70 ± 18 MHz in 125 kHz steps (**1 kHz steps, option X1005**) with low group delay and flat frequency response. Synthesized local oscillators (LO) provide 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 10MHz 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. 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 and Rear Panels

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss **50Ω/18 dB min.; 20 dB typ**
 Frequency 3.4 to 4.2 GHz
Noise Figure, max. 15 dB (max gain)
 Level -70 to -30 dBm

Output Characteristics (IF)

Impedance/Return Loss **75Ω /18 dB min.; 20 dB typ.**
 Frequency 70 ± 18 MHz
 Level **-20 to 0 dBm**
 1dB compression **+10 dBm**

Channel Characteristics

Gain range (adjustable) **+30 to +50 dB (±2 dB); 0.5 ±0.5 dB steps**
 Image Rejection > 50 dB, min
 Spurious Response **<-50 dBC, maximum ; <-55 dBC, typical**
 Intermodulation <-50 dBC for two carriers each at -8 dBm out, **Gain +50**
 Frequency Response ±1.5 dB, 3.4-4.2 GHz ; ± 0.5 dB, 36 MHz BW
 Group Delay, max **0.015 ns/MHz² parabolic; 0.05 ns/MHz linear, 1 ns ripple**
 Frequency Sense Non-inverting

Synthesizer Characteristics

Frequency Accuracy **± 0.01 ppm** internal reference; external reference input
 Frequency Step 125 kHz minimum; (**1 kHz steps, option X1005**)
 10 MHz In/Out Level 3 dBm ± 3 dB

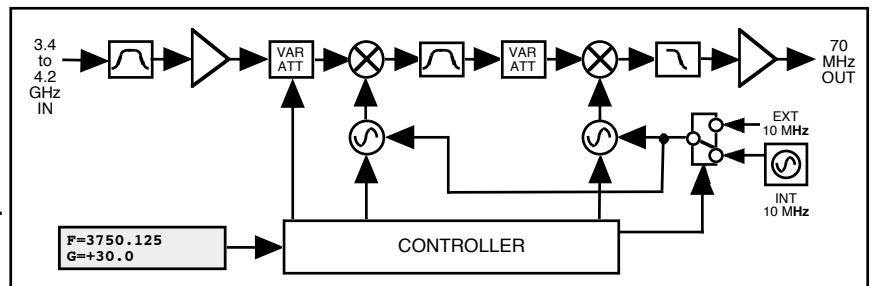
Phase Noise @ F (Hz) >	10	100	1K	10K	100K	1M
Standard-125kHz steps: dBC/Hz	-55	-70	-75	-80	-95	-105

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; **RS485/422 or Ethernet optional**

Other

RF / IF Connectors RF - Type N (female), **50Ω** / IF - BNC (female), **75Ω**
 10 MHz Connectors BNC (female), **75Ω, works with 50 or 75 ohms**
 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



Block Diagram

Available Options

W7 - RF/IF Monitor Ports (Front)
 W31 - Ext. Temp 0C to +50C
 X1005 - 1 kHz frequency step
Remote M&C Interfaces:
 Q - RS485/422
 W8 - Ethernet; w/Web Browser (WB)
 W18 - Ethernet; w/WB & SNMP
 W28 - Ethernet; w/TCP/IP, Telnet
Connectors/Impedance
 STD. - 50Ω Type N (RF), 75Ω BNC (IF)
 M - 50Ω Type N (RF), 50Ω BNC (IF)
 S - 50Ω SMA (RF), 50Ω BNC (IF)
 S7 - 50Ω SMA (RF), 75Ω BNC (IF)
Contact Cross for other options

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