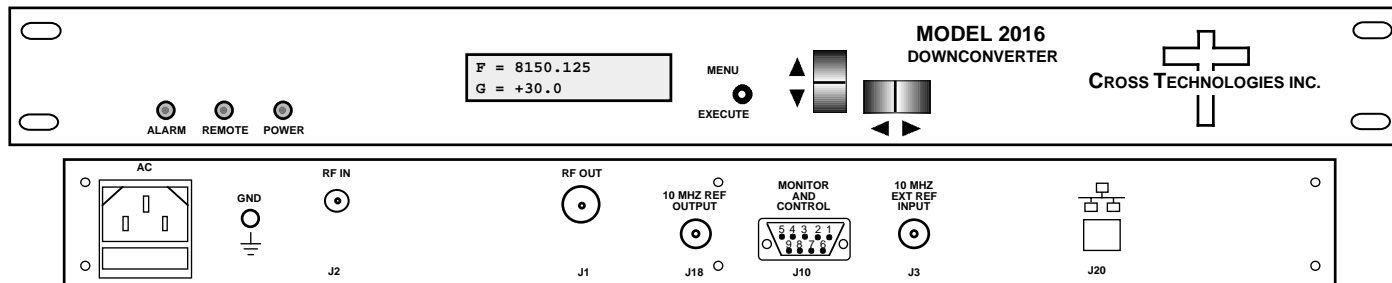


2016-7984-720-400 Downconverter, 7.9 - 8.4 GHz to 720 ±200 MHz

The 2016-7984-720-400 Downconverter converts 7.9 to 8.4 GHz to 720 ±200 MHz in 125 kHz steps, **Fc = 8.1-8.25 GHz (1 kHz steps, option X1006)** 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 **RF 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. It is powered by a 100-240 ±10% VAC power supply, and in a 1 3/4" X 19" X 16" rack mount chassis.



Front and Rear Panel (shown with Ethernet option)

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss **50Ω/14 dB min.**
 Frequency 7.9 to 8.4 GHz,
(Fc = 8.1-8.25 GHz)

Noise Figure, max. **15 dB (max gain)**
 Level **-70 to -40 dBm**

Output Characteristics (IF)

Impedance/Return Loss **75Ω /14 dB min.**
 Frequency 720 ±200 MHz
 Level **-20 to 0 dBm**
 1dB compression **+10 dBm**

Channel Characteristics

Gain range (adjustable) **+30 to +50 dB, 1 ±1 dB steps**
 Image Rejection **> 50 dB, min**
 Spurious Response **<-55 dBC, typical; <-50 dBC, maximum, inband**
 Frequency Response **± 1.5 dB, 400 MHz BW, Fc = 8.1-8.25 GHz**
 Group Delay, max **10 ns total (parabolic + linear + ripple), 400 MHz band, Fc = 8.1-8.2 GHz**
 Frequency Sense Non-inverting

Synthesizer Characteristics

Frequency Accuracy **± 0.01 ppm internal reference; external reference input**
 Frequency Step **125 kHz min, Fc= 8.1-8.25 GHz; (1 kHz steps, option X1006)**
 10 MHz In/Out Level **Input=+1 to +8 dBm in; Output = 3 ± 3 dBm**

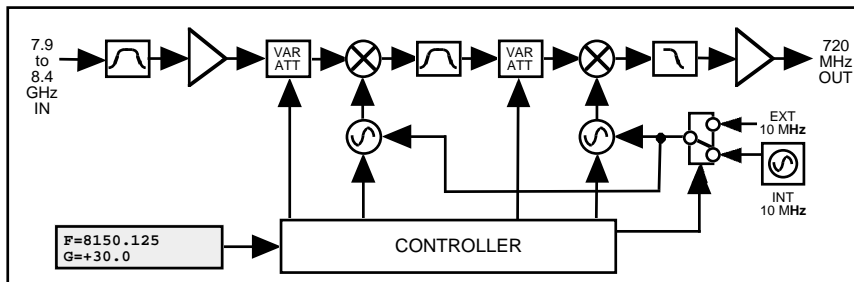
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-70	-70	-80	-95	-105

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 Connectors RF - Type N (female), **50Ω** / RF - 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

W66 -50 to -20 dBm input
 W31 - Ext. Temp 0C to +50C
 X1006 - 1 kHz frequency step

Remote M&C Interfaces:

Q - RS485/422 Remote Interface
 W8 - Ethernet; w/Web Browser (WB)
 W18 - Ethernet; w/WB & SNMP
 W28 - Ethernet; w/TCP/IP, Telnet
 W828 - Ethernet, W18 + W28

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