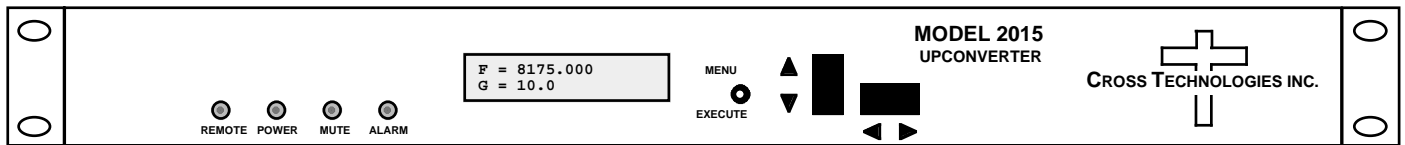


## 2015-7984-720-400 Upconverter, 720 ±200 MHz to 7.9 - 8.4 GHz

The 2015-7984-720-400 Upconverter converts 720 ± 200 MHz to 7.9 to 8.4 GHz 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. Push button switches select the RF frequency, gain, and other parameters. Front panel LEDs provide indication of DC power (green), remote operation (yellow), PLL alarm (red), or the TX carrier is muted (yellow). Variable attenuators for the **RF input** and RF output provide a gain range of **0 to +20 dB** as adjusted by the front panel pushbutton 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 input** and 10MHz reference input and output, and Type N female for the RF output (other connector options available). The 2015-7984-720-400 is powered by a 100-240 ±10% VAC power supply; and in a 1.75" X 19" X 16" rack mount chassis.



**Front Panel**

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics (IF)

Impedance/Return Loss 75Ω /14 dB  
 Frequency **720 ± 200 MHz**  
 Input Level -30 to -10 dBm

#### Output Characteristics (RF)

Impedance/Return Loss 50Ω/14 dB min.  
 Frequency **7.9 to 8.4 GHz, Fc = 8.1-8.25 GHz**  
 Output level **-25 to -5 dBm**  
 Output 1 dB compression **+5 dBm**

#### Channel Characteristics

Gain range **+0 to +20 dB, 0.5 ± 0.5 dB steps**  
 Spurious Response <-50 dBC carrier and non-carrier related, **Inband; ≤ -55dBm out of band (Fc ±1 GHz)**  
 Intermodulation <-50 dBC for two carriers each at -8 dBm out  
 Frequency Response **± 1.5 dB, 400 MHz BW, (Fc = 8.1-8.25 GHz)**  
 Group Delay, max **10 ns total (parabolic + linear + ripple)**  
 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**

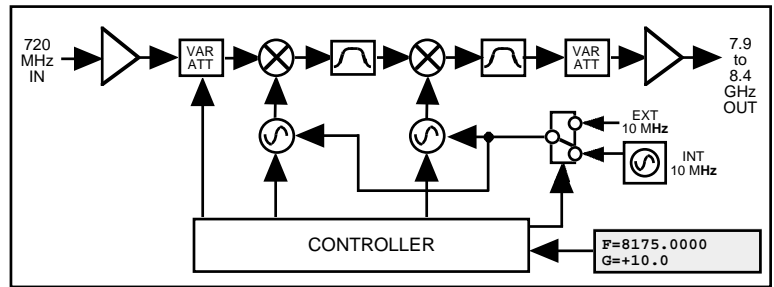
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-70	-70	-80	-95	-105

#### Controls, Indicators

Freq/Gain Selection direct readout LCD; pushbutton switches or remote selection  
 Pwr; Alarm; Rem; Mute Green LED; Red LED; Yellow 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 / Temp Range 100-240 ±10% VAC, 47-63 Hz, 45 watts max.



**Block Diagram**

#### Available Options

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