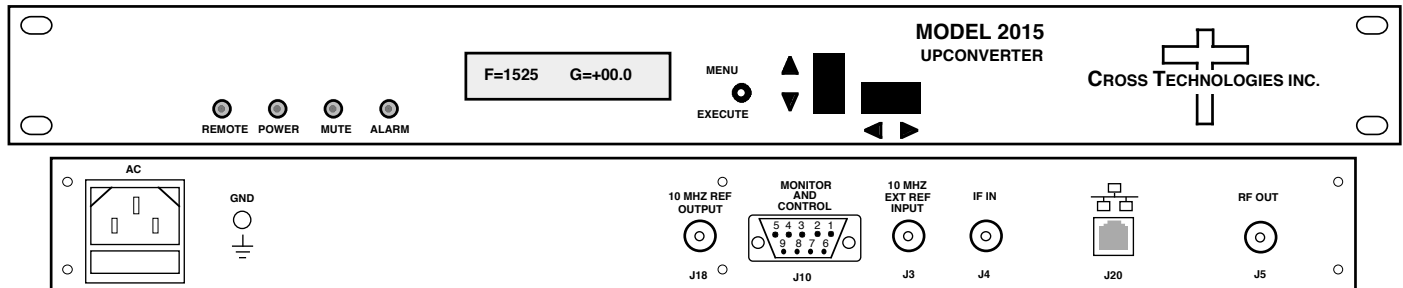


2015-0925-316 Upconverter, 316 MHz to 0.95 - 2.50 GHz

The 2015-0925-316 L-band Upconverter converts 316 ± 76 MHz to 950 to 2500 MHz in 1 MHz steps (**125 kHz to 1 kHz step options available**). Synthesized local oscillators (LO) provide frequency selection. Push button switches select the RF frequency, gain, and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), remote operation (yellow) and TX carrier MUTE (yellow). Variable attenuators for the IF input and output provide a gain range of **0 to +30 dB** as adjusted by the front panel 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 input, **RF output** and the optional external reference input and output. **The external 10 MHz option E** includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal. A high stability internal reference (**option H**, ± 0.01 ppm) is also available. It is powered by a $100-240 \pm 10\%$ VAC power supply, and housed in a $1 \frac{3}{4}'' \times 19'' \times 16''$ rack mount chassis.



EQUIPMENT SPECIFICATIONS* 2015-0925-316 Front and Rear Panels (Optional ext. 10 MHz and Ethernet shown)

Input Characteristics (IF)

Impedance/Return Loss 75 Ω /18 dB
 Frequency **316 \pm 76 MHz**
 Input Level **-35 to -10 dBm; at Fc**

Output Characteristics (RF)

Impedance/Return Loss **50 Ω /12 dB**
 Frequency **950 to 2500 MHz**
 Output level **-20 to 0 dBm; at Fc**
 Output 1 dB comp. **+10 dBm; at Fc**

Channel Characteristics

Gain range (adjustable) **0.0 to +30.0 dB, 1 \pm 1 dB steps; at Fc (option Z5, 0.5 \pm 0.5dB Steps)**
 Frequency Response **± 2.0 dB, 950 - 2500 MHz; ± 1.0 dB, ± 76 MHz BW**
 Spurious Response **< -50 dBc, in band; < -45 dBc, out of band (0.2-0.94 GHz and 2.51-3.0 GHz)**
 Group Delay, max **0.015 ns/MHz² parabolic; 0.05 ns/MHz linear; 1 ns ripple**
 Frequency Sense Non-inverting

Synthesizer Characteristics

Frequency Accuracy ± 1.0 ppm max over temp (± 0.01 ppm, option H)
 Frequency Step 1.0 MHz (**125 kHz to 1 kHz step options available**)

| Phase Noise @ F (Hz) > | 10 | 100 | 1K | 10K | 100K | 1M |
|------------------------|-----|-----|-----|-----|------|------|
| dBc/Hz | -55 | -70 | -70 | -80 | -90 | -110 |

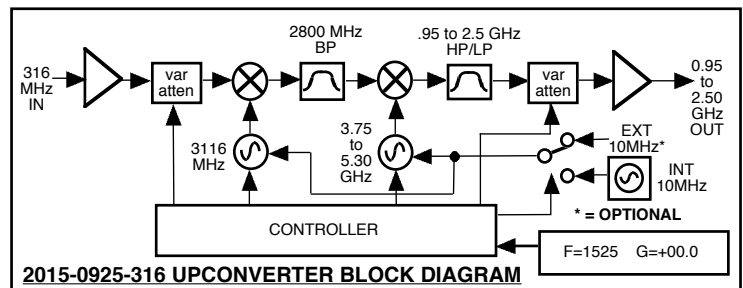
10 MHz Level (In or Out) 3 dBm, ± 3 dB, 75 ohms (option E)

Controls, Indicators

Freq/Gain Selection direct readout LCD; manual or remote selection
 Pwr; Alarm; Rem; Mute Green LED; Red LED; Yellow LED; Yellow LED
 Remote RS232C, 9600 baud (**RS485, Ethernet Optional**)

Other

RF, IF Connectors **50 Ω BNC (female), 75 Ω BNC (female)**
 10 MHz Connectors BNC (female), **75 Ω , works with 50 or 75 ohms (option E)**
 Alarm/Remote Conn. DB9 (female) - NO or NC contact closure on Alarm
 Size 19 inch, 1RU standard chassis $1.75'' \text{ H} \times 16.0'' \text{ D}$
 Power $100-240 \pm 10\%$ VAC, 47-63 Hz, **25 W max.**
(24 , 48 VDC Optional)



Available Options

E - External 10 MHz ref in & out
 H - High Stability (± 0.01 ppm) Internal Ref
 X - 125 kHz step size
 X1- 100 kHz step size

X1002 - 1 kHz step, includes option -H
Z5- Attenuator 0.5 \pm 0.5dB Steps

Comm. Interface/Standard RS232

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

Connectors/Impedance

STD. - 50 Ω BNC (RF), 75 Ω BNC (IF)
 D - 50 Ω BNC (RF), 50 Ω BNC (IF)
 N - 50 Ω N-type (RF), 75 Ω BNC (IF)
 M - 50 Ω N-type (RF), 50 Ω BNC (IF)
 S - 50 Ω SMA (RF), 50 Ω BNC (IF)
 S7 - 50 Ω SMA (RF), 75 Ω BNC (IF)

Contact Cross for other options

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