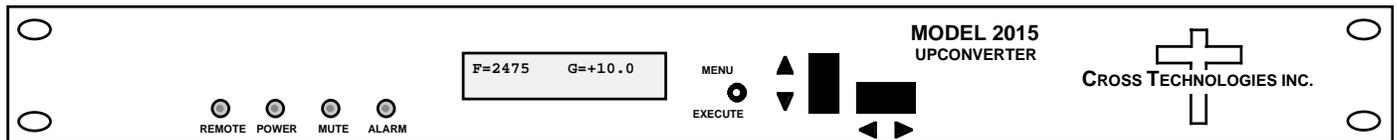


## 2015-26 Upconverter, 140 MHz to 2.0 - 2.5 GHz

The 2015-26 S-band Upconverter converts 140 ± 36 MHz to 2000 to 2500 MHz in 1 MHz steps (0.5 MHz steps, option -5) with low group delay and flat frequency response. Synthesized local oscillators (LO) provide 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), remote operation (yellow) or the TX carrier is muted (yellow). Variable attenuators for the IF input and output provide a gain range of -10 to +30 dB 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, IF and the optional external reference input and output. 10 MHz reference can be inserted on the RF line as an added option. The 10 MHz option includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal. A high stability (±0.01ppm) option is also available. 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 (IF)**

Impedance / Return Loss 75Ω / 18dB  
 Frequency 140 ± 36 MHz  
 Input Level Range -40 to -10 dBm

**Output Characteristics (RF)**

Impedance / Return Loss 50Ω / 12dB  
 Frequency 2.0 to 2.5 GHz  
 Output level -20 to 0 dBm  
 Output 1 dB compression +5 dBm

**Channel Characteristics**

Gain range (adjustable) -10 to +30 dB  
 Image Rejection > 50 dB, min.  
 Frequency Response ±1.5 dB, 2.0-2.5 GHz ; ± 0.5 dB, 36 MHz BW  
 Spurious Response < -50 dBc, in band  
 Group Delay, max 0.0035 ns/MHz<sup>2</sup> parabolic; 0.025 ns/MHz linear; 1 ns ripple  
 Frequency Sense Non-inverting

**Synthesizer Characteristics**

Frequency Accuracy ± 1.0 ppm internal reference (±0.01 ppm, option H)  
 Frequency Step 1.0 MHz (0.5 MHz, option -5)  
 10 MHz In/Out Level 3 dBm ± 3 dB (option E)

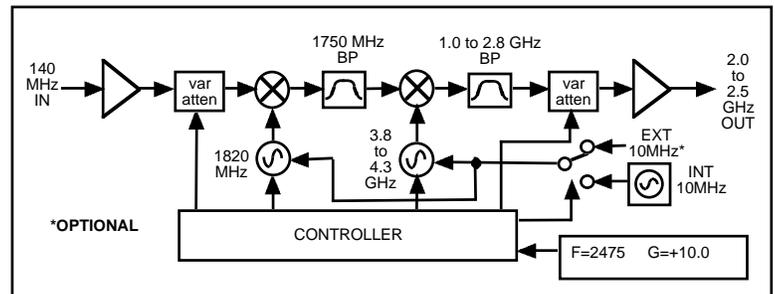
Phase Noise @ F (Hz) >	100	1K	10K	100K	1M
dBc/Hz	-70	-70	-80	-95	-105

**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, option Q)

**Other**

RF, IF Connectors BNC (female)  
 10MHz Connectors BNC (female), 50Ω/75Ω (option E)  
 Alarm/Remote Connector DB9 (female) - 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 W max.



**Block Diagram**

**Available Options**

- E - External 10 MHz ref input & output
- H - High Stability (±0.01ppm) Internal Ref
- Q - RS485 Remote Interface
- Z - Attenuator 0.1 dB steps on Upconverter
- 5 - 0.5 MHz Frequency Steps
- Connectors/Impedance
- B - 75Ω BNC (RF), 75Ω BNC (IF)
- D - 50Ω BNC (RF), 50Ω BNC (IF)
- N - 50Ω N-type (RF), 75Ω BNC (IF)
- M - 50Ω N-type (RF), 50Ω BNC (IF)

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