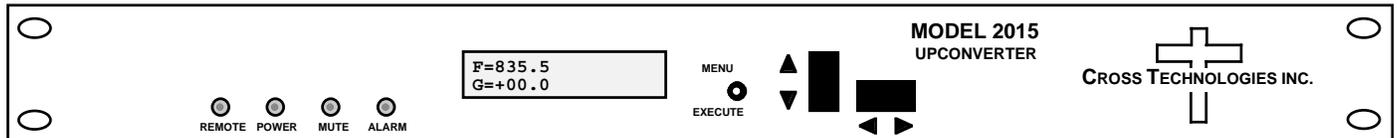


## 2015-1083 Fixed Frequency Upconverter, 835.5 MHz

The 2015-1083 UHF-band Upconverter converts 140 ( $\pm 36$ ) MHz to 835.5 ( $\pm 36$ ) MHz Fixed with low group delay and flat frequency response. Synthesized local oscillators (LO) provide very low phase noise and  $\pm 0.01$  ppm stability frequency selection. Multi-function push button switches select the gain, and other variable 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 gain and other variable parameters. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are BNC (female) for IF input and optional external reference input / output, and Type N (female) for the RF output. The External 10 MHz reference Option includes a 10 MHz output connector, which provides the selected (internal or external) 10 MHz reference signal output. The unit is powered by a **100-240  $\pm 10\%$  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 75 $\Omega$ /18 dB  
 Frequency 140  $\pm 36$  MHz  
 Input Level -40 to -10 dBm

#### Output Characteristics (RF)

Impedance/Return Loss 50 $\Omega$ /12 dB  
 Frequency 835.5 MHz ( $\pm 36$  MHz) Fixed  
 Output level -20 to 0 dBm  
 Output 1 dB comp. +5 dBm

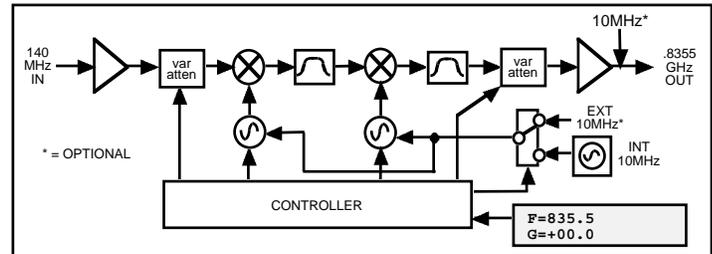
#### Channel Characteristics

Gain range (adjustable) -10.0 to +30.0 dB  
 Frequency Response 835.5 MHz ;  $\pm 0.5$  dB, 72 MHz BW  
 Spurious Response < -60 dBc, in band typical; -55 dBc max.  
 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  $\pm .01$  ppm internal reference  
 Frequency Step None; Fixed Frequency, non-tunable  
 10 MHz In/Out Level 3 dBm  $\pm 3$  dB (option E)

| Phase Noise @ Freq | 100 Hz | 1kHz | 10kHz | 100kHz | 1 MHz |
|--------------------|--------|------|-------|--------|-------|
| dBC/Hz             | -77    | -82  | -90   | -102   | -110  |



**Block Diagram**

#### 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, option Q)

#### Other

RF Connector N-type (female)  
 IF Connector BNC (female)  
 10MHz Connectors BNC (female) 50 $\Omega$ /75 $\Omega$  (option E)  
 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  $\pm 10\%$  VAC**, 47-63 Hz, 45 watts max

#### Available Options

E - External 10 MHz ref input & output  
 Q - RS485 Remote Interface

#### Connectors/Impedance

B - 75 $\Omega$  BNC (RF), 75 $\Omega$  BNC (IF)  
 C - 50 $\Omega$  BNC (RF), 75 $\Omega$  BNC (IF)  
 D - 50 $\Omega$  BNC (RF), 50 $\Omega$  BNC (IF)  
 M - 50 $\Omega$  N-type (RF), 50 $\Omega$  BNC (IF)

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