

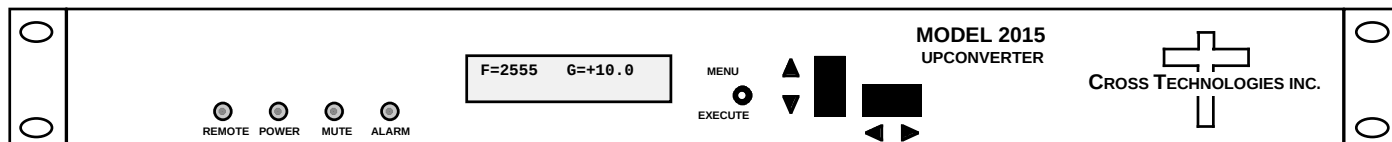


## DATA SHEET

11/14/07

### 2015-27 Upconverter, 2.5 - 2.7 GHz

The 2015-27 Upconverter converts  $70 \pm 18$  MHz to 2500 to 2700 MHz in 1 MHz steps 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. The 10 MHz option includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal. A high stability ( $\pm 0.01$ ppm) option is also available. 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 70  $\pm$  18 MHz  
Input Level -40 to -10 dBm

##### **Output Characteristics (RF)**

Impedance/Return Loss 50 $\Omega$ /12 dB  
Frequency 2.5 to 2.7 GHz  
Output level -20 to 0 dBm  
Output 1 dB compression +5 dBm

##### **Channel Characteristics**

Gain range (adjustable) -10 to +30 dB  
Spurious Response <-50 dBC, in band  
Frequency Response  $\pm 1.5$  dB, 2.5-2.7 GHz ;  $\pm 0.5$  dB, 36 MHz BW  
Group Delay, max 0.01 ns/MHz<sup>2</sup> parabolic; 0.03 ns/MHz linear, 1 ns ripple  
Frequency Sense Non-inverting

##### **Synthesizer Characteristics**

Frequency Accuracy  $\pm 1.0$  ppm internal reference; external reference input  
Frequency Step 1.0 MHz minimum  
10 MHz In/Out Level 3 dBm  $\pm$  3 dB

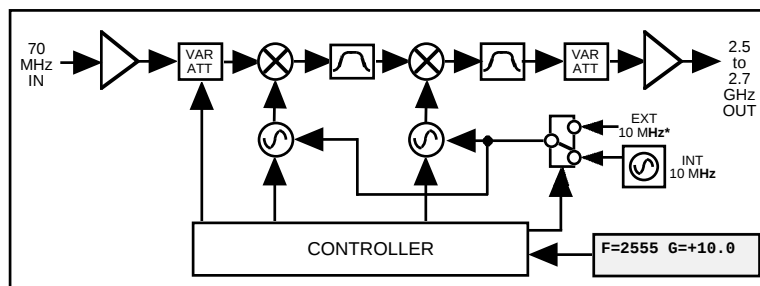
| Phase Noise @ Freq | 100Hz | 1kHz | 10kHz | 100kHz | 1MHz |
|--------------------|-------|------|-------|--------|------|
| dBC/Hz             | -70   | -70  | -80   | -95    | -110 |

##### **Controls, Indicators**

Pwr; Alarm; Rem; Mute Green LED; Red LED; Yellow LED; Yellow LED  
Remote RS232C, 9600 baud  
Freq/Gain Selection direct readout LCD; pushbutton switches or remote selection

##### **Other**

RF Connector BNC (female)  
IF Connector BNC (female)  
10 MHz Connectors BNC (female), 50 $\Omega$ /75 $\Omega$   
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



**Block Diagram**

##### **Available Options**

E - External 10 MHz Ref in/out  
H - High Stability ( $\pm 0.01$ ppm) internal Ref.  
Q - RS485 Remote Interface  
Z - Attenuator 0.1 dB on Upconverter  
X - 125 kHz Frequency Steps  
W8- Ethernet M&C Remote Interface  
Connectors/Impedance  
B - 75 $\Omega$  BNC (RF), 75 $\Omega$  BNC (IF)  
D - 50 $\Omega$  BNC (RF), 50 $\Omega$  BNC (IF)  
N - 50 $\Omega$  N-type (RF), 75 $\Omega$  BNC (IF)  
M - 50 $\Omega$  N-type (RF), 50 $\Omega$  BNC (IF)  
S - 50 $\Omega$  SMA (RF), 50 $\Omega$  BNC (IF)

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

**CROSS TECHNOLOGIES, INC.**  
6170 Shiloh Road, Alpharetta, Georgia 30005  
770-886-8005, FAX 770-886-7964  
[www.crosstechnologies.com](http://www.crosstechnologies.com)