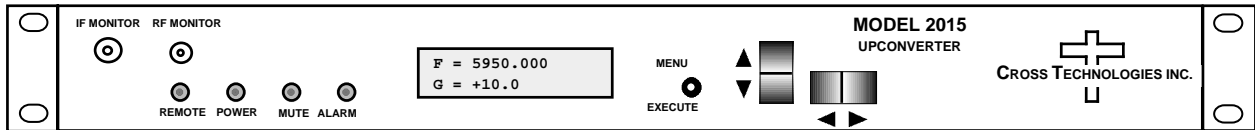


## 2015-58-T Upconverter, 5.845 - 6.725 GHz

The 2015-58-T Upconverter converts  $70 \pm 18$  MHz to 5.845 to 6.725 GHz in 125 kHz steps with low group delay and flat frequency response. Synthesized local oscillators (LO) provide low phase noise and  $\pm 0.01$  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 IF 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 IF input and 10MHz reference input and output, and Type N female for the RF output (other connector configurations available). The 2015-58 is powered by a  $100\text{-}240 \pm 10\%$  VAC power supply; and housed in a 1.75" X 19" X 16" rack mount chassis.



**Front Panel**

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics (IF)

Impedance/Return Loss 75Ω /20 dB  
 Frequency  $70 \pm 18$  MHz  
 Input Level -30 to -10 dBm  
 Noise Figure 20dB typ; 25dB max., +30 dB gain

#### Output Characteristics (RF)

Impedance/Return Loss 50Ω/20 dB Typ, 18 dB min.  
 Frequency 5.845 to 6.725 GHz  
 Output Level -20 to 0 dBm  
 Output 1 dB compression +10 dBm

#### Channel Characteristics

Gain range / Stability +10 to +30 dB, 0.5 dB steps /  $\pm 0.25$  dB/day max. stability  
 Spurious Response <-50 dBC  
 Intermodulation <-45 dBC for two carriers each at -5 dBm out  
 Frequency Response  $\pm 1.5$  dB, 5.845-6.725 GHz ; Slope 0.05 dB/MHz max.; 36 MHz BW;  $\pm 0.5$  dB, 36 MHz BW  
 AM/PM Conversion 0.1 deg/dB max for -15 dBm output  
 Group Delay, max. **0.015 ns/MHz<sup>2</sup>** parabolic; **0.05 ns/MHz** linear; 1 ns ripple  
 Frequency Sense Non-inverting

#### Synthesizer Characteristics

Frequency Accuracy  $\pm 0.01$  ppm ( $1 \times 10^{-8}$ ) internal reference ( $1 \times 10^{-9}$  per day); External reference input available  
 Frequency Step 125 kHz minimum  
 10 MHz In/Out Level 3 dBm  $\pm$  3 dB

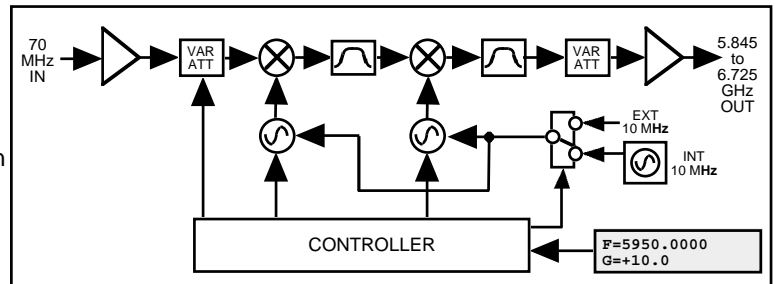
| Phase Noise @ Freq | 100 Hz | 1kHz | 10kHz | 100kHz | 1 MHz |
|--------------------|--------|------|-------|--------|-------|
| dBC/Hz             | -70    | -75  | -80   | -95    | -110  |

#### 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

#### Other

RF / IF Connectors RF - Type N (female) / IF - BNC (female)  
 RF / IF Monitor Ports -20 dBC Levels; Connectors RF - SMA Female;  
 IF - 75Ω BNC female, (Front Panel)  
 10 MHz Connectors BNC (female), 75Ω, works with 50 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  $\pm 10\%$  VAC, 47-63 Hz, 45 watts max /



**Block Diagram**

#### Available Options

**W12 - LO1/LO2 Monitor Ports (Rear)**  
 Remote M&C Interfaces  
**Q - RS485/422**  
**W8 - Ethernet**  
**W18 - Ethernet (w/SNMP)**  
 Connectors/Impedance  
 M - 50Ω Type N (RF), 50Ω BNC (IF)

\*0°C to 50°C; Specifications subject to change without notice