CROSS TECHNOLOGIES, INC.

DATA SHEET
Rev. 0
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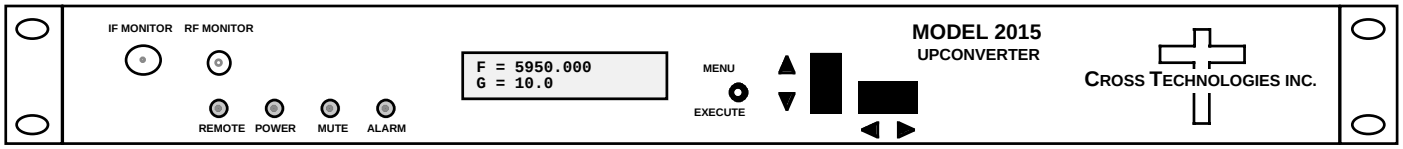
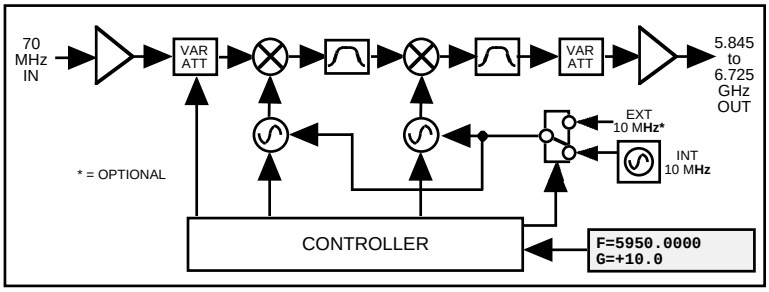
2015-58-02 Upconverter, 5.845 - 6.725 GHz

The 2015-58-02 Upconverter converts 70 ± 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 ±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 2015-58-02 is powered by a 100-240 ±10% VAC power supply; and housed in a 1.75" X 19 " X 16" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*



Block Diagram

Input Characteristics (IF)

Impedance/Return Loss	**50Ω /20 dB**
Frequency	70 ± 18 MHZ
Input Level	**-30 to -10 dBm**
Noise Figure	**20dB typ; 25dB max., -30 In**

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 / ±0.25 dB/day max. stability**
Spurious Response	<-50 dBC
Intermodulation	**<-50 dBC for two carriers each at 0 dBm out**
Frequency Response	±1.5 dB, 5.845-6.725 GHz ; **Slope 0.05 dB/MHz max**.; 36 MHz BW; ± 0.5 dB, 36 MHz BW
AM/PM Conversion:	**0.1 deg/dB max for -15 dBm output**
Group Delay, max	0.01 ns/MHz^2 parabolic; 0.03 ns/MHz linear; 1 ns ripple
Frequency Sense	Non-inverting

Synthesizer Characteristics

Frequency Accuracy	**±0.01 ppm (1x10E-8) internal reference** (1x10E-9 per day); External reference input available					
Frequency Step	125 kHz minimum					
10 MHz In/Out Level	3 dBm ± 3 dB					
Phase Noise	@ Freq	100Hz	1kHz	10kHz	100kHz	1MHz
Meets IESS 308/309	dBc/Hz	< -70	< -70	< -80	< -90	< -100

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

Available Options

Q - RS485 Remote Interface

Other

RF / IF Connectors	RF - Type N (female) / IF - BNC (female)
RF / IF Monitors	**-20 dBC Levels; Connectors RF-SMA Female; IF 50Ω BNC female**
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 ±10% VAC, 47-63 Hz, 45 watts max / 0˚C to 50˚C; 95% Humidity, non-condensing

***0˚C to 50˚C**; Specifications subject to change without notice

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