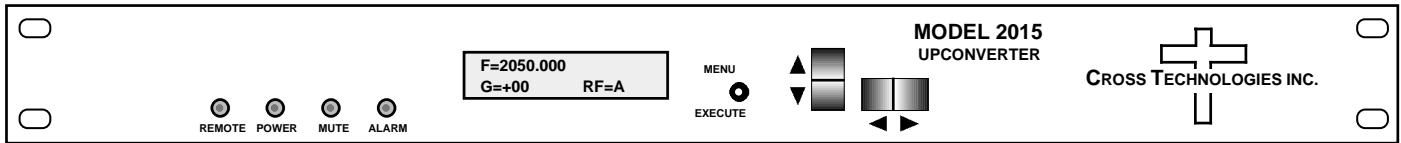


2015-225 Upconverter, 70 MHz to 2.0 - 2.5 GHz

The 2015-225 Upconverter converts 70 ± 18 MHz to 2000 to 2500 MHz in 1kHz, 10kHz, 100kHz, or 125kHz steps (user selectable) with low group delay and flat frequency response. Synthesized local oscillators (LO) provide very low phase noise and ± 0.01 ppm stability 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 IF Input, RF output and the optional external reference input and output. The External 10 MHz option includes a 10 MHz input and output connector. The unit is powered by a $100\text{-}240 \pm 10\%$ VAC power supply, and housed in a $1\frac{3}{4}'' \times 19'' \times 16''$ rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics (IF)

Impedance / Return Loss 50 Ω / 18dB
 Frequency 70 \pm 18 MHz
 Input Level -40 to -10 dBm

Output Characteristics (RF)

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

Channel Characteristics

Gain range (adjustable) -10 to +30 dB
 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 0.015 ns/MHz² parabolic; 0.05 ns/MHz linear; 1 ns ripple
 Frequency Sense Non-inverting

Synthesizer Characteristics

Frequency Accuracy $\pm .01$ ppm internal ref.
 Frequency Step 1kHz, 10kHz, 100kHz, or 125kHz (user selectable)
 10 MHz In/Out Level 3 dBm \pm 3 dB (option E)

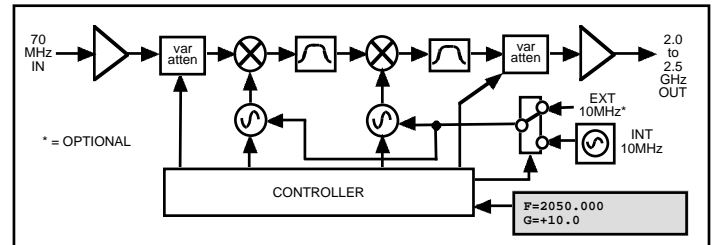
Phase Noise @ Freq	100Hz	1kHz	10kHz	100kHz	1MHz
dBc/Hz	-72	-85	-88	-110	-120

Controls, Indicators

Frequency Selection Direct readout LCD; manual or remote selection
 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

IF, RF Connectors BNC (female)
 10 MHz Connector BNC (female), 50 Ω /75 Ω (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 \pm 10% VAC, 47-63 Hz, 45 W max.



Block Diagram

Available Options

E - External 10 MHz ref input & output
 Q - RS485 Remote Interface
 Z - Attenuator 0.1 dB on Upconverter
 SW- Switchable Dual RF outputs
 W8- Ethernet with Web Browser
 W28- Ethernet with TCP/IP, Telenet®
W32- P1dB Compression = +10 dBm, Max. Output Level = 0 dBm

Connectors/Impedance

B - 75 Ω BNC (RF), 75 Ω BNC (IF)
 C - 50 Ω BNC (RF), 75 Ω BNC (IF)
 D - 50 Ω BNC (RF), 50 Ω BNC (IF) STD
 N - 50 Ω N-type (RF), 75 Ω BNC (IF)
 M - 50 Ω N-type (RF), 50 Ω BNC (IF)

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