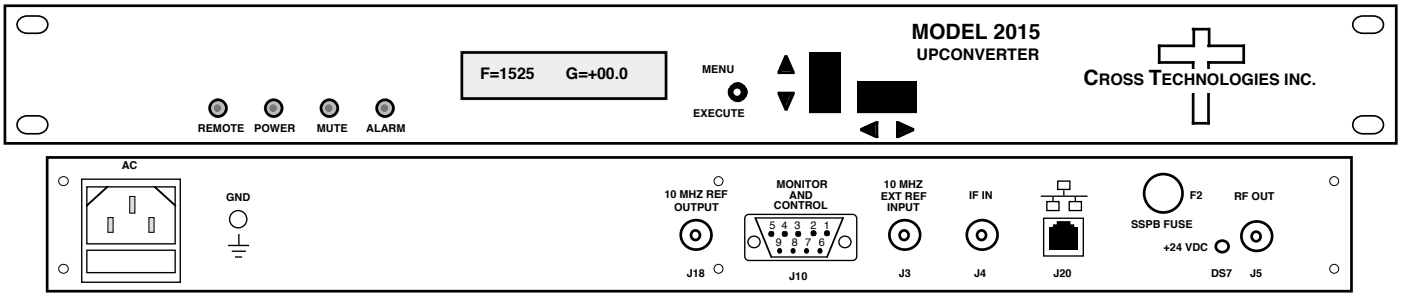
CROSS TECHNOLOGIES, INC.

DATA SHEET
Rev. B
12/13/18

2015-04-720 Upconverter, 720 MHz to 0.95 - 2.15 GHz

The 2015-04-720 L-band Upconverter converts 720 ± 36 MHz to 950 to 2150 MHz in 1 MHz steps (**125 kHz to 1 kHz step options available)**. Synthesized local oscillators (LO) provide frequency selection. 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) and TX carrier MUTE (yellow). Variable attenuators for the IF input and RF output provide a gain range of **0 to +40 dB** as adjusted by the front panel 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 and the optional external reference input and output, and **75Ω BNC** for the RF output. **SSPB +24 or +48 VDC inserted on the RF line is optional. External 10 MHz option E** includes a 10 MHz output connector which contains either the internal or external 10 MHz reference signal **that can also be inserted on the RF line.** A high stability **option H** (±0.01ppm) is also available. It is powered by a 100-240 ± 10% VAC power supply, and housed in a 1 3/4" X 19" X 16" rack mount chassis.



EQUIPMENT SPECIFICATIONS*

Input Characteristics (IF)

Impedance/Return Loss	**50 Ω /14 dB, 16 dB typ.**
Frequency	720 ± 36 MHZ
Input Level	**-50 to -20 dBm**

Output Characteristics (RF)

Impedance/Return Loss	75 Ω/12 dB
Frequency	950 to 2150 MHz
Output level	0 to -20 dBm
Output 1 dB comp.	**+10 dBm**

Channel Characteristics

Gain, Maximum	**+40.0 ±1 dB at 1.45 GHz**
Gain range (adjustable)	**0 to +40.0 dB, 1 ±1 dB steps**
Frequency Response	±1.5 dB, 950 - 2150 MHz; **± 0.75 dB, 72 MHz BW; ±1.0 dB, 80 MHz BW**
Spurious Response	< -50 dBC, in band
Group Delay, max	**0.0035** ns/MHz^2 parabolic; **0.035** ns/MHz linear; 1 ns ripple
Frequency Sense	Non-inverting

Synthesizer Characteristics

Frequency Accuracy	± 1.0 ppm max over temp (±0.01 ppm, option **H**)
Frequency Step	1.0 MHz **(125 kHz to 1 kHz step options available)**

Phase Noise @ F (Hz) >	*10*	*100*	*1K*	*10K*	*100K*	*1M*
dBC/Hz	***-55***	*-70*	*-70*	*-80*	*-90*	*-110*

10 MHz Level (In or Out)	3 dBm, ± 3 dB, 75 ohms (option **E**)

Controls, Indicators

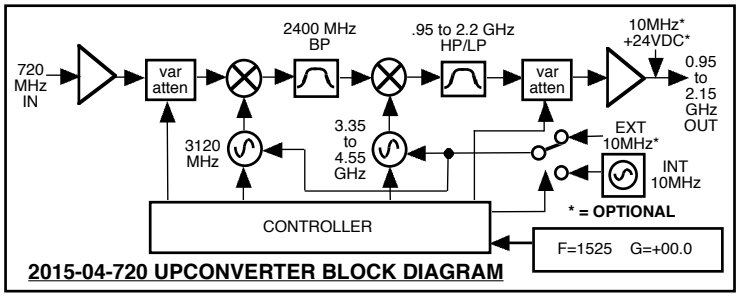
Freq/Gain Selection	direct readout LCD; manual or remote selection
Pwr; Alarm; Rem; Mute	Green LED; Red LED; Yellow LED; Yellow LED
Remote	RS232C, 9600 baud **(RS485, Ethernet Optional)**

Other

RF, IF Connectors	**75 Ω BNC (female), 50 Ω BNC (female)**
10 MHz Connectors	BNC (female)**, 75Ω, works with 50 or 75 ohms** (option **E**)
Alarm/Remote Connector	DB9 (female) - NO or NC contact closure on Alarm
Size	19 inch, 1RU standard chassis 1.75" H X 16.0" D
Power	100-240 ±10% VAC, 47-63 Hz, **25** W max.

*10˚C to 40˚C; Specifications subject to change without notice.

2015-04-720 Front and Rear Panels (Shown with Options E, V, W8)



2015-04-720 UPCONVERTER BLOCK DIAGRAM

Available Options

E - External 10 MHz ref in & out; RF Ins.
H - High Stability (±0.01ppm) Internal Ref
V - SSPB Voltage, +24VDC, 2.5 amps
V48 - SSPB Voltage, +48VDC, 1.25 A
X or X1- 125 kHz or 100 kHz step size
X1002 - 1 kHz step, includes option H
Z - Attenuator 0.1 dB steps, Upconverter

Comm. Interface/Standard RS232

Q - RS485 Remote Interface
W8 - Ethernet; w/Web Browser (WB)
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet
W828 - Ethernet; W8 +W18 +W28

Connectors/Impedance

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

Contact Cross for other options

Cross Technologies, Inc. • www.crosstechnologies.com
6170 Shiloh Road • Alpharetta, GA 30005 • 770.886.8005 • FAX 770.886.7964