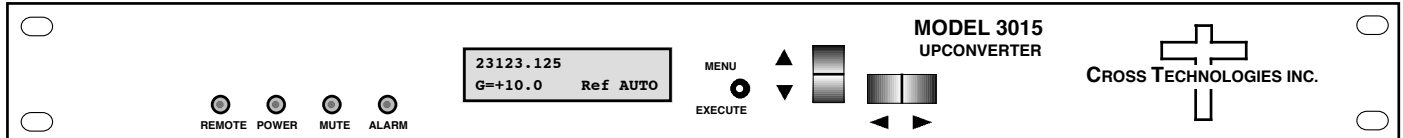


3015-2124 Upconverter, 21 - 24 GHz

The 3015-2124 Upconverter converts 70 ± 18 MHz to **21 to 24 GHz** in 125 kHz steps (**1 kHz opt- X1008**). This unit combines a 70 MHz to 3-4GHz agile upconverter with a multi-band block upconverter to obtain the wide tuning range. Synthesized local oscillators (LO) provide frequency selection. Multi-function 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 +20 dB** as adjusted by the front panel multi-function 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 external 10MHz reference input and output, and **2.92 mm** (female) for the RF output. The unit is powered by a 100-240 $\pm 10\%$ VAC power supply, and housed in a 1 3/4" X 19" X 18" rack mount chassis.



EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance 75 Ω
Return Loss 18 dB
Frequency 70 ± 18 MHz
Input Level **-30 to -10 dBm**

Output Characteristics

Impedance/Return Loss **50 Ω /18 dB typ., 14dB min.**
Frequency **21 to 24 GHz**
Output level **-15 to 0 dBm**
Output 1 dB compression **+10 dBm**

Channel Characteristics

Gain Max/range (adj.) 20 \pm 2 dB Max./ -10.0 to +20.0 dB, 1dB \pm 1 dB dB steps
Spurious, Inband < -50 dBC
Spurious, Out of band < -50 dBm
Intermod < -50 dBC for two carriers each at -5 dBm out
Frequency Response **± 3.0 dB, 21-24 GHz; ± 1.5 dB, any 1 GHz band; ± 1.0 dB, 36 MHz BW**
Group Delay, max **0.02 ns/MHz² parabolic; 0.05ns/MHz linear; 1 ns ripple, 36 MHz BW**
Frequency Sense Non-inverting

Synthesizer Characteristics

Frequency Accuracy **± 0.01 ppm max over temp internal ref.; external ref. input**
Frequency Step **125 kHz minimum, (1 kHz opt- X1008)**
External 10 MHz level **+3 dBm \pm 3 dB, 50 Ω**

Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	60	70	80	90	100

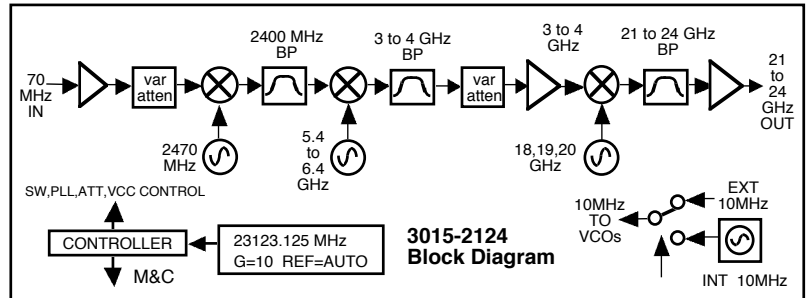
Controls, Indicators

Freq/Gain Selection Direct readout LCD; manual or remote selection
Pwr; Alm; Remote; Mute Green LED; Red LED; Yellow LED; Yellow LED
Remote RS232C, 9600 baud (RS422/485/opt.-Q, Ethernet/opt-W8,18,28)

Other

RF, IF Connectors **2.92 mm** (female), BNC,75 Ω (female), (**50 Ω IF opt- S29**)
10MHz Connectors BNC (female) **50 Ω , works for 50 or 75 ohms**
Alarm/Remote Connector DB9 (female) - NO or NC contact closure on Alarm
Size **19 inch, 1RU standard chassis 1.75" high X 18.0" deep**
Power 100-240 $\pm 10\%$ VAC, 47-63 Hz, **60 watts max.**

Front Panel



Bundled Options:

Bundle #-01 includes:
S29,W8,W16,W70, X1008

Available Options

Q - RS485 Remote Interface
W8 - Ethernet; w/Web Browser (WB)
W16 - Test Data
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet
W71 - IF Mon., - 20dB, 50 ohm
W70 - RF Mon., - 20dB, 50 ohm
X1008 - 1 kHz steps

Connectors/Impedance

S29 - 2.92mm (RF), 50 Ω BNC (IF)
SS29- 2.92mm (RF), SMA (IF)

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