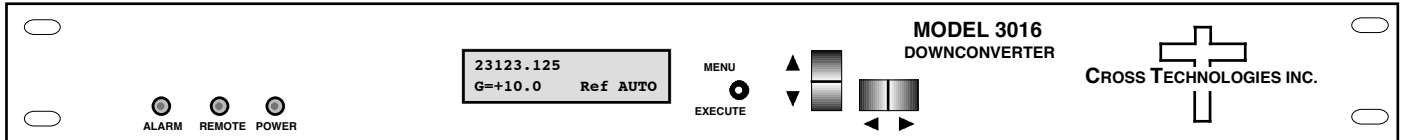


3016-2124 Downconverter, 21 - 24 GHz, 70 MHz IF

The 3016-2124 Downconverter converts **21 to 24 GHz** to 70 ± 18 MHz in 125 kHz steps (**1 kHz opt- X1008**). This unit combines a multi-band block downconverter with a 3-4 GHz to 70 MHz agile downconverter to obtain the wide tuning range. Synthesized local oscillators (LO) provide frequency selection. Multi-function switches select the input frequency, gain, and other parameters. Front panel LEDs provide indication of DC power, PLL alarm or Remote operation. Gain is adjustable manually (MGC) over a **0 to +30 dB** range. The frequency and gain are remotely selectable. Parameter selection and frequency and gain settings appear on the LCD display. Connectors are **2.92 mm female** for the RF, and BNC female for the IF and external 10 MHz reference input and output. Other connector options are available. It is powered by a 100-240 $\pm 10\%$ VAC power supply, and is in a 1 3/4" X 19" X 18" rack mount chassis.



Front Panel

EQUIPMENT SPECIFICATIONS*

Input Characteristics (RF)

Impedance/Return Loss **50Ω/18 dB typ., 14dB min.**
Frequency **21 to 24 GHz**
Noise Figure, max. **20 dB (max gain)**
Input Level Range **-50 to -30 dBm**

Output Characteristics (IF)

Impedance/Return Loss **75Ω/18 dB**
Frequency **70 ± 18 MHz**
Output level Range **-20 to 0dBm**
Output 1 dB compression **+10 dBm**

Channel Characteristics

Gain Max/range (adj.) 30 ± 3 dB Max./ 0.0 to +30.0 dB range, 1dB ± 1 dB steps
Image Rejection **> 50 dB, min.**
Frequency Response **±3.0 dB, 21-24 GHz; ±1.5 dB, any 1 GHz band; ± 1.0 dB, 36 MHz BW**
Spurious Response **< -50 dBc, in band, 21 to 24 GHz**
Intermod **< -50 dBc for two carriers each at -5 dBm out**
Group Delay, max **0.02 ns/MHz² parabolic; 0.05ns/MHz linear; 1 ns ripple, 36 MHz BW**
Frequency Sense **Inverting or Non-inverting (user selectable)**

Synthesizer Characteristics

Frequency Accuracy **± 0.01 ppm max over temp internal ref; ext ref. input**
Frequency Step **125 kHz minimum, (1 kHz opt- X1008)**
10 MHz In/Out Level **3 dBm ± 3 dB**

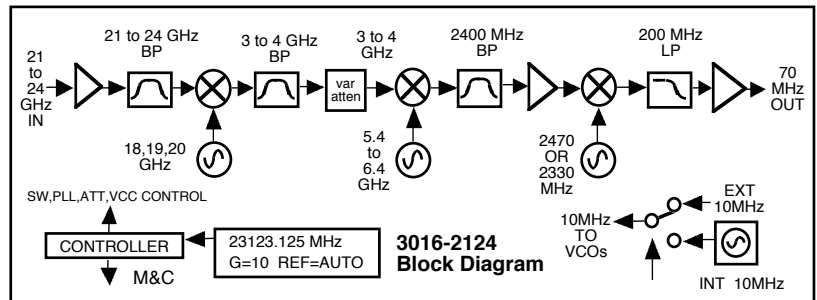
Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	60	70	80	90	100

Controls, Indicators

Freq/Gain Selection **direct readout LCD; manual or remote selection**
Power; Alarm; Remote **Green LED; Red 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,75Ω (female), (50Ω IF opt- S29)**
10MHz Connectors **BNC (female) 50Ω, 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 ±10% VAC, 47-63 Hz, 60 watts max**



Bundled Options:

Bundle #-01 includes:
S29,W8,W16,W73, 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
W73 - RF Mon., - 3±3dB, 50 ohm
X1008 - 1 kHz steps
Connectors/Impedance
S29 - 2.92mm (RF), 50Ω BNC (IF)
SS29- 2.92mm (RF), SMA (IF)

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