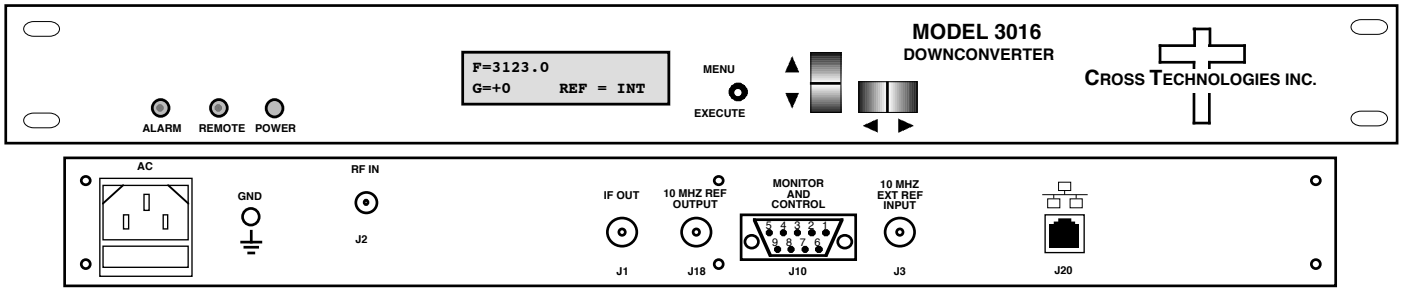
CROSS TECHNOLOGIES, INC.

DATA SHEET
REV. 0 2/26/26

3016-0004 Downconverter, 0.15 - 4.0 GHz to 70 ±20 MHz

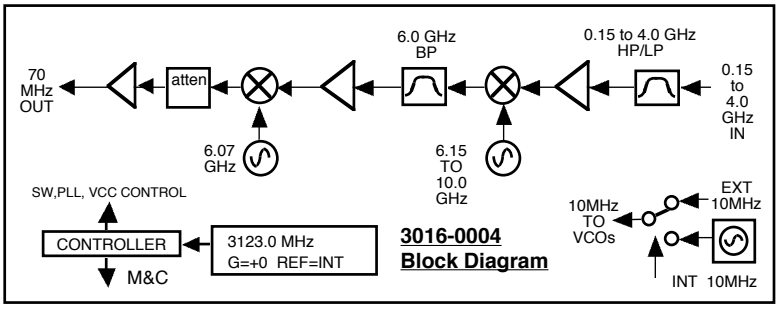
The 3016-0004 Downconverter converts 0.15 to 4.0 GHz to 70 ±20 MHz in 1 MHz steps (125kHz, 100kHz, 1kHz, optional) with +0 dB gain. The 0.15 to 4 GHz is first converted to 6.0 GHz with an agile, high side LO upconverter to obtain the wide tuning range and then to 70 MHz. Synthesized local oscillators (LO) provide frequency selection. Multi-function switches select the RF frequency and other parameters. Front panel LEDs provide indication of DC power (green), PLL alarm (red), and remote operation (yellow). Remote operation allows selection of frequency. Parameter selection and frequency settings appear on the LCD display. Connectors are BNC (female) for IF and external 10MHz reference input and output, and SMA (female) for the RF input. The unit is powered by a 100-240 ±10% VAC power supply, and housed in a 1 3/4" X 19" X 18" rack mount chassis.



Front and Rear Panels (shown with Ethernet option)

EQUIPMENT SPECIFICATIONS*

NOTE 1 - Measured at 2 GHz, applies across the band.



3016-0004 Block Diagram

Input Characteristics

Impedance/Return Loss	50Ω /14dB min.
Frequency	0.15 to 4.0 GHz
Input Level Range	-35 to -25 dBm, NOTE 1

Output Characteristics

Impedance/Return Loss	75Ω /14dB min.
Frequency	70 ± 20 MHz
Output Level Range	-35 to -25 dBm, NOTE 1
Output 1 dB compr.	-15 dBm, NOTE 1

Channel Characteristics

Gain	0 ± 2 dB, at 2 GHz in to 70 MHz out, NOTE 1
Frequency Response	±3.0 dB, 0.15-4.0 GHz; ±1.5 dB, over any 1 GHz band, NOTE 1; ± 0.5 dB ± 20 MHz, NOTE 1
Spurious Response	< -50 dBc, in band, 0.15 to 4.0 GHz input; 70 ± 20 MHz, -25 dBm, output, NOTE 1
Intermod	< -50 dBc for two carriers, 2 GHz ± 2 MHz, each at -20 dBm out, NOTE 1
Group Delay, max	4 ns total, 70 MHz ± 20 MHz output, NOTE 1
Frequency Sense	Non-inverting

Synthesizer Characteristics

Frequency Accuracy	± 0.01 ppm max over temp internal ref.; external ref. input
Frequency Step	1 MHz minimum; other steps optional
10 MHz In/Out Level	+3 dBm ± 3 dB, 50Ω

Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBc/Hz	65	70	80	90	100

Controls, Indicators

Frequency 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-W8,18,28,828)

Other

RF, IF Connectors	SMA (female), BNC,75Ω (female), (Others optional)
10MHz Connectors	BNC (female) 75Ω, works for 50 or 75 ohms
Alarm/Remote Conn.	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, 30 watts max.

Available Options

X - 125 kHz step
X1 - 100 kHz step
X1005 - 1 kHz step

Remote M&C Interfaces:

Q - RS485/422
W8 - Ethernet; w/Web Browser (WB)
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet
W828 - W8 +W18 +W28

Connectors/Impedance

S - 50Ω SMA (RF), 50Ω BNC (IF)
SS - 50Ω SMA (RF), 50Ω SMA (IF)

Contact Cross for other options

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

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