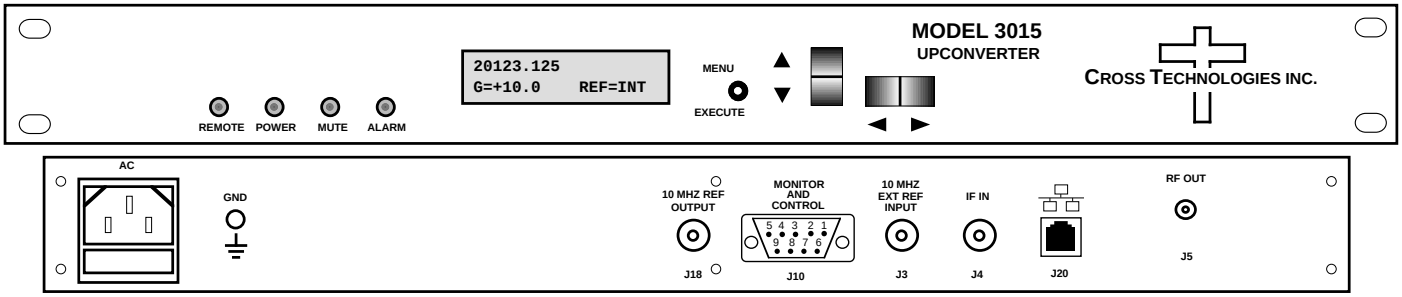
CROSS TECHNOLOGIES, INC.

DATA SHEET
REV. B 03/27/18

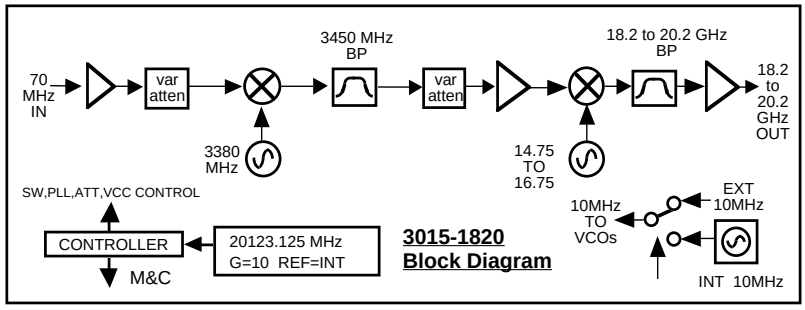
3015-1820 Upconverter, 70 MHz to 18.2 - 20.2 GHz

The 3015-1820 Upconverter converts 70 ± 18 MHz to **18.2 to 20.2 GHz** in 125 kHz steps **(1 kHz opt- X1008)**. This unit combines a 70 MHz to **3.45** GHz upconverter with an **agile** 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 **-5 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 ±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*



3015-1820 Block Diagram

Input Characteristics

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

Output Characteristics

Impedance/Return Loss	**50Ω /18 dB typ., 14dB min.**
Frequency	**18.2 to 20.2 GHz**
Output level	**-15 to 0 dBm**
Output 1 dB compr.	**+10 dBm**

Channel Characteristics

Gain Max/range (adj.)	**20 ± 2 dB Max./ -5.0 to +20.0 dB, 0.5 dB ± 0.5 dB steps**
Spurious, Inband	< -50 dBC**, at max. gain**
Spurious, Out of band	**< -50 dBm, at max. gain**
Intermod	**< -50 dBC for two carriers each at -5 dBm out, at max. gain**
Frequency Response	**±3.0 dB, 18.2-20.2 GHz; ±1.5 dB, any 1 GHz band; ± 1.0 dB, 36 MHz BW**
Group Delay, max	**0.02 ns/MHz^2 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 ± 3 dB, 50Ω

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,75Ω (female)**, (50Ω IF opt- S29)**
10MHz Connectors	BNC (female) **50Ω, 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, **60 watts max.**

Available Options
W16 - Test Data
W71 - IF Mon., - 20dB, 50 ohm
W70 - RF Mon., - 20dB, 50 ohm
X1008 - 1 kHz steps

Remote M&C Interfaces:
Q - RS485/422
W8 - Ethernet; w/Web Browser (WB)
W18 - Ethernet; w/WB & SNMP
W28 - Ethernet; w/TCP/IP, Telnet

Connectors/Impedance
S29 - 2.92mm (RF), 50Ω BNC (IF)
SS29- 2.92mm (RF), SMA (IF)
Contact Cross for other options

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

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