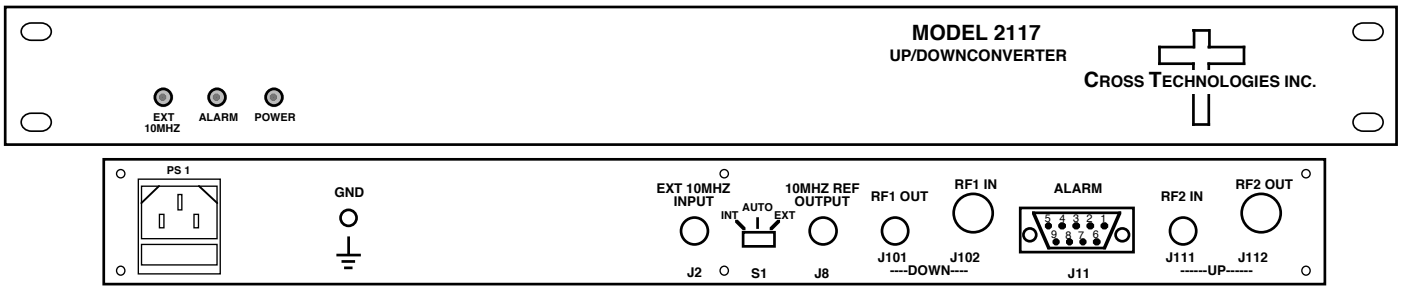
CROSS TECHNOLOGIES, INC.

DATA SHEET
Rev. 0
11/19/20

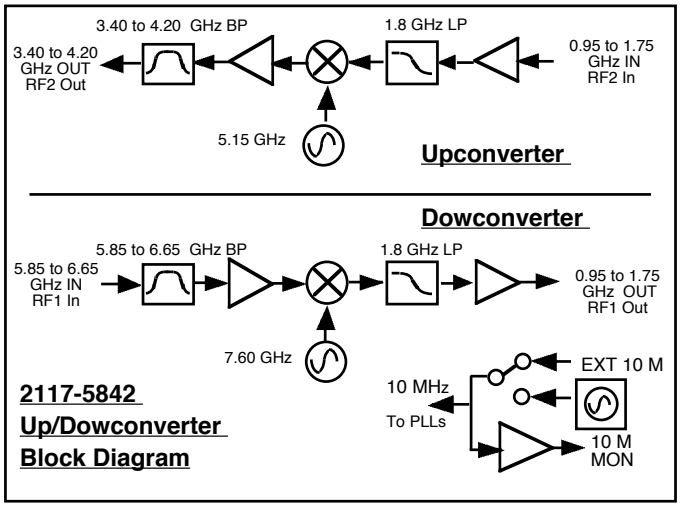
2117-5842 Up/Downconverter, 3.40-4.20 GHz Up, 5.85-6.65 GHz Down

The 2117-5842 Up/Downconverter converts **0.95 - 1.75 GHz to 3.40 - 4.20 GHz** and **5.85-6.65 GHz to 0.95 - 1.75 GHz,** with **inverting spectrums**. Front panel LEDs provide indication of DC Power, External 10 MHz, and PLL Alarm. The gain is **+20 dB for the upconverter and +20 dB for the downconverter**. Connectors are **Type N female for the RF output and input, BNC female for the L-band input and output** and external reference input and reference output. A three-way switch controls which 10 MHz reference is being used. In the AUTO position, the internal reference is used unless a +3 dBm ± 3 dB, 10MHz reference signal is connected to the external reference input. The 2117 is powered by a 100-240 ± 10% VAC power supply, and in a 1 3/4" X 19" X **14**" rack mount chassis.



Front and Rear Panels (SHOWN WITH OPTIONS SS, R)

EQUIPMENT SPECIFICATIONS*		
Input Characteristics	**UP, C**	**DOWN, C**
Impedance/Return Loss	50Ω/14 dB	50Ω/14 dB
Frequency	0.95-1.75 GHz	**5.85-6.65 GHz**
Noise Figure, Max.	20 dB	12 dB
Input Level range	-40 to -20 dBm	-55 to -35 dBm
Output Characteristics		
Impedance/Return Loss	50 Ω /14 dB	50 Ω /14 dB
Frequency (GHz)	**3.40-4.20 GHz**	0.95-1.75 GHz
Output Level Range	-20 to 0 dBm	**-35 to -15 dBm**
1 dB comp, max gain	+10 dBm	**-5 dBm**
Mute @ 0 dBm out	**>50 dB**	**N/A**
Channel Characteristics		
Gain, at Fc	+20 ±1 dB	**+20 ±1 dB**
Image Rejection	**>60 dBc**	**>60 dBc**
Spurious, Inband, sig. rel.	**<-50 dBc, 0dBm**	**<-50 dBc, -15dBm**
Spurious, Inband, sig. ind.	**<-50 dBc, 0dBm**	**<-50 dBc, -15dBm**
Spurious, Out of band	<-50 dBm, 0dBm	**<-60 dBm, -15dBm**
2 tone 4MHz del, @>ea	<-50 dBc,@-10ea	<-50 dBc,@-25ea
Frequency Resp. band	±2 dB	±2 dB
Frequency Resp. 40 MHz	± 0.5 dB	± 0.5 dB
Frequency Sense	**Inverting**	**Inverting**



LO Characteristics

LO Frequency **Downconverter - 7.60 GHz; Upconverter - 5.15 GHz**
Frequency Accuracy ± 0.01 ppm max over temp internal reference; ext. ref. input

Phase Noise @ F (Hz) >	*100*	*1K*	*10K*	*100K*	*1M*
dBc/Hz	*-70*	*-80*	*-85*	*-100*	*-110*

10 MHz level +3 dBm, ± 3 dB, 75 ohms, External In or Internal out

Controls, Indicators

INT/AUTO/EXT Switch Selects internal or external 10 MHz (rear panel DP3T switch)
Ext 10 MHz Yellow LED, indicates external 10 MHz reference selected
PLL Alarm Red LED, **External contact closures for Band 1 and Band 2**
Power Green LED

Other

RF In/Out, L-BAND Con. N-type (female), 50Ω / BNC (female), 50Ω
10 MHz connectors BNC (female), 75Ω connector; works with 50Ω or 75Ω
Alarm Connector DB9 - NO or NC contact closure on Alarm
Size 19 inch standard chassis 1.75" high X **14"** deep
Power 100-240 ± 10% VAC, 47 - 63 Hz, **50** watts maximum

Available Options

P48 = 48V DC Power Supply
R = Redundant AC Power Supply
W31 0 to +50 degrees C operation

Available Connector Options

NF = 50Ω N-type (RF), 75Ω F-type (L-Band)
N = 50Ω N-type (RF), 75Ω BNC (L-Band)
NN = 50Ω N-type (RF), 50Ω N-type (L-Band)
SS = 50Ω SMA (RF), 50Ω SMA (L-Band)

* +10 to +40 degrees C Operating; **-30 to +60 degrees C Non-operating;** 95% relative humidity, non-condensing;
Specifications subject to change without notice

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