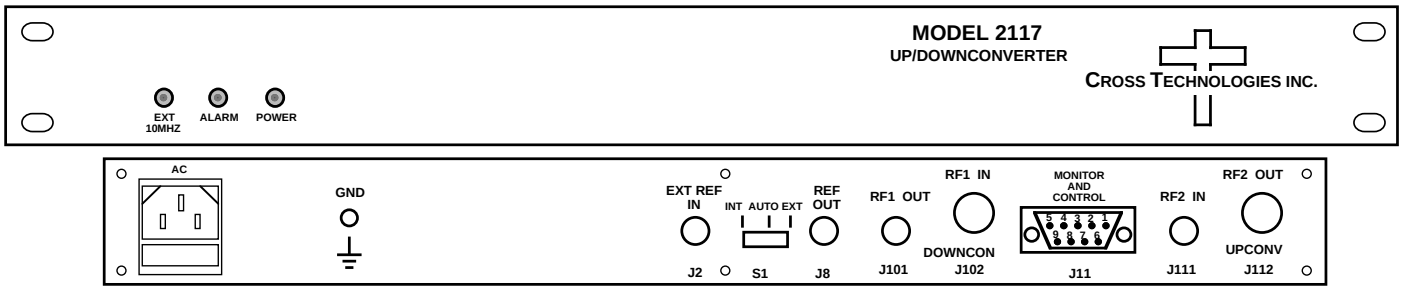
CROSS TECHNOLOGIES, INC.

DATA SHEET
Rev. A
1/20/20

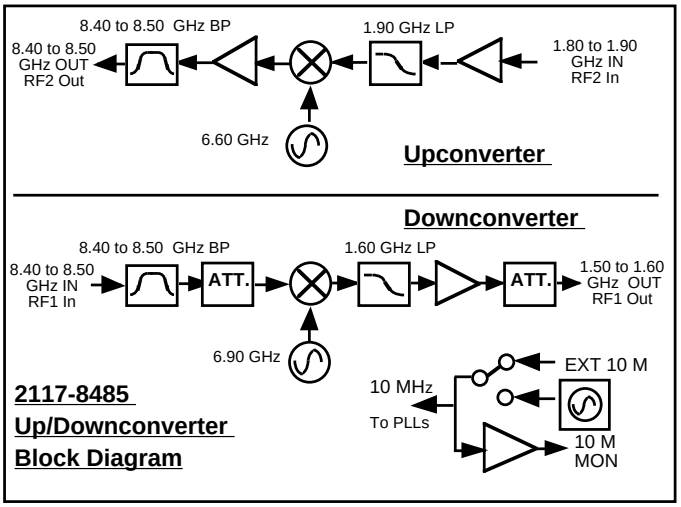
2117-8485 Up/Downconverter, 8.40-8.50 GHz Up, 8.40-8.50 GHz Down

The 2117-8485 Up/Downconverter converts **1.80 - 1.90 GHz to 8.40 - 8.50 GHz** and **8.40-8.50 GHz to 1.50 - 1.60 GHz,** with **non-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 RF2 OUT and RF1 IN, BNC female for the RF2 IN and RF1 OUT** 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 16" rack mount chassis.



Front and Rear Panels

EQUIPMENT SPECIFICATIONS*		
Input Characteristics	**UP**	**DOWN**
Impedance/Return Loss	50Ω/14 dB	50Ω/14 dB
Frequency	1.80-1.90 GHz	8.40-8.50 GHz
Noise Figure, Max.	20 dB @ max gain	25 dB @ max gain
Input Level range	-40 to -20 dBm	-20 to 0 dBm
Output Characteristics		
Impedance/Return Loss	50 Ω /14 dB	50 Ω /14 dB
Frequency (GHz)	8.40-8.50 GHz	1.50-1.60 GHz
Output Level Range	-20 to 0 dBm	-40 to -20 dBm
1 dB comp, max gain	+10 dBm	-10 dBm
Mute @ 0 dBm out	>50 dB	N/A
Channel Characteristics		
Gain, max. at Fc, fixed	+20 ±2 dB	-20 ±2 dB
Image Rejection	>60 dBC	>60 dBC
Spurious, Inband, sig. rel.	<-50 dBC, 0dBm	<-50 dBC, -5dBm
Spurious, Inband, sig. ind.	<-50 dBC, Gmax	<-50 dBC, Gmax
Spurious, Out of band	<-50 dBm, Gmax	<-50 dBm, Gmax
2 tone 4MHz; Max -10 ea	<-50 dBC,Gmax	<-50 dBC,Gmax
Frequency Resp. band	±1.5 dB	±1.5 dB
Frequency Resp. 40 MHz	± 0.5 dB	± 0.5 dB
Frequency Sense	non-inverting	non-inverting



LO Characteristics

LO Frequency	**Downconverter - 6.90 GHz; Upconverter - 6.60 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 closure**
Power	Green LED

Other

RF1 In, RF2 Out	**N-type (female), 50Ω**
RF1 Out, RF2 In	**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 **16"** deep
Power	100-240 ± 10% VAC, 47 - 63 Hz, **50** watts maximum

Available Options

P48 = 48V DC Power Supply
R = Redundant AC Power Supply

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; Specifications subject to change without notice

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