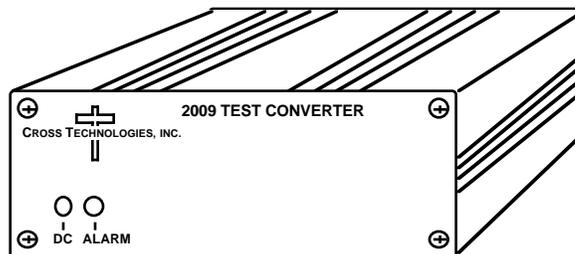
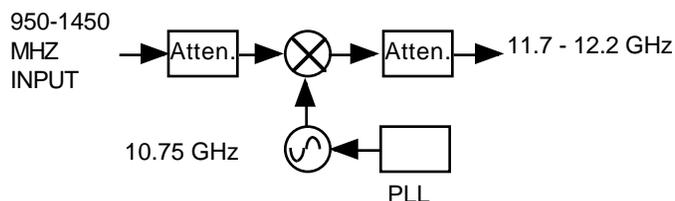


2009-117 11.7-12.2 GHz Upconverter

2009-117 Upconverter - Converts a 950 - 1450 MHz signal to 11.7 - 12.2 GHz with a low side local oscillator (LO) (non-inverted spectrum) for loop-back applications. Featuring low phase noise, this unit is used to upconvert 950 - 1450 MHz signals to 11.7 - 12.2 GHz for test purposes. The 950 - 1450 MHz input is mixed with a synthesized local oscillator (LO) signal to 11.7 - 12.2 GHz. The mixer output is applied to the output attenuator providing a nominal gain of -30 dB. Connectors are 75 ohm F female for the 950 - 1450 MHz input and 50 ohm SMA, female for the RF output. Front panel LEDs light when DC power is applied (green) and when a PLL alarm occurs (red). DC power is provided by an external 115 VAC, 60 Hz wall mount power supply. A 90-240 VAC, 47-63 Hz wall mount power supply (**option -P4**) is available. The 2009 can be mounted on an 1 3/4" X 19" rack mount panel (**option -R**).



2009-117 Upconverter Block Diagram and Chassis

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance/RL	75 Ω /10 db
Frequency Band	950 -1450 MHz
Input Impedance/RL	75 Ω /10 db
Input Level	-10 to -20 dBm
Input 1 dB	+0 dBm

Output Characteristics

Frequency	11.7-12.2 GHz
Output Level	-40 to -50 dBm
Impedance/RL	50 Ω /14 db

Channel Characteristics

Gain at band center	-30 dB \pm 2 dB
Spurious Response	<-40 dBC, 11.7-12.2 GHz
Frequency Response	\pm 2 dB, 11.7-12.2 GHz; \pm 0.5 dB, any 10 MHz increment

Synthesizer Characteristics

Frequency Accuracy	\pm 5 ppm max					
Phase Noise	@ Freq	100Hz	1kHz	10kHz	100kHz	1MHz
	dBc/Hz	< -60	< -70	< -80	< -90	< -100

Indicators

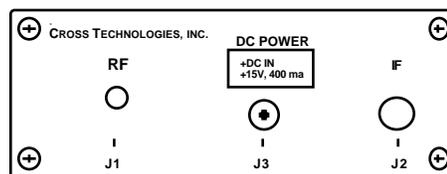
DC Power; Alarm	Green LED; Red LED
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Other

RF In, RF Out Connectors	Type F, female SMA, female,
Size, Bench Top	4.7" wide X 1.75" high X 6.5" deep
Size, Rack Mount (-R)	19 inch standard chassis 1.75"high X 7.0" deep (Optional)
Power	120 \pm 10% VAC, 60 Hz, 15 watts max, wall mt PS -P4 Option, 100-240 \pm 10% VAC, 47-63 Hz, 15 watts max, wall mt PS

Models

2009-117	950 - 1450 MHz in, 11.7-12.2 GHz Out, 120 \pm 10% VAC Wall Power Supply
2009-117P4	950 - 1450 MHz in, 11.7-12.2 GHz Out, 90-260 VAC Wall Power Supply



2009 REAR PANEL

*+10 to +40 degrees C; 2000 meters max elevation; 80% max humidity; Specifications subject to change without notice