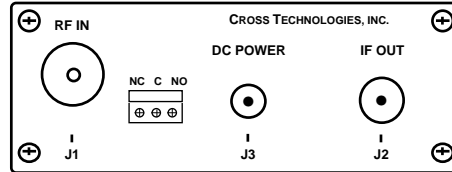
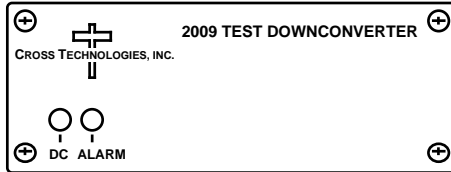


## 2009-140 Downconverter, 14.0 - 14.5 GHz

The 2009-140 Downconverter converts a 14.0 - 14.5 GHz signal to 950 - 1450 MHz with a low side local oscillator (LO) (non-inverted spectrum) for loop-back applications. Featuring low phase noise and high stability, this unit is used to downconvert "clean" (having only this frequency) 14.0 - 14.5 GHz signals to 950 - 1450 MHz for test purposes. The 14.0 - 14.5 GHz input is mixed with a synthesized local oscillator (LO) signal to 950 - 1450 MHz. The mixer output is applied to the output attenuator providing a nominal gain of -20 dB. Connectors are 75Ω type-F (female) for the 950 - 1450 MHz output and 50Ω type-N (female) for the RF input. Front panel LEDs light when DC power is applied (green) and when a PLL alarm occurs (red). DC power is provided by the LNB voltage from the receiver under test or by an external wall mount power supply (**option -P or -P4**). The 2009 can be mounted on an 1 3/4" X 19" rack mount panel (**option -R**). **Option -H9** allows the 2009-140 to be operated over an extended -20°C to +60°C temperature range.



Front and Rear Panels (shown with Option W24, Alarm Contact Terminal Strip)

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

Impedance / Return Loss 50Ω / 12 db  
 Frequency 14.0-14.5 GHz  
 Level -15 to 0 dBm  
 Input 1 dB compression +5 dBm

#### Output Characteristics

Impedance / Return Loss 75Ω / 12 db  
 Frequency 950 to 1450 MHz  
 Level -35 to -20 dBm

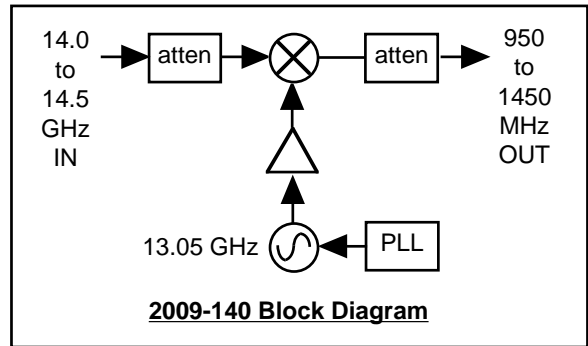
#### Channel Characteristics

Gain at band center -20 dB ±2 dB  
 Spurious Response <-40 dBC, 950-1450 MHz out  
 Spectrum Sense Non-inverting  
 Frequency Response ± 2 dB, 950-1450 MHz; ± 0.5 dB, any 10 MHz increment

#### Synthesizer Characteristics

LO Frequency 13.05 GHz  
 Frequency Accuracy ± 2.5ppm max

Phase Noise @ F (Hz) >	100Hz	1kHz	10kHz	100kHz	1MHz
dBC/Hz	-60	-75	-85	-100	-110



#### Indicators

DC Power Green LED  
 Alarm Red LED

#### Other

RF In Connector Type-N (female), 50Ω  
 IF Out Connector Type-F (female)  
 Size, Bench Top 4.7" wide X 1.75" high X 6.5" deep  
 Size, Rack Mount (-R) 19" standard chassis, 1.75" high X 7.0" deep (optional)  
 Power +15 to +18 VDC, 250 ma on RF Out (Wall mount power supply unit optional)

#### Options

-H9 Operates over an extended -20°C to 60°C temp range  
 -P 120 VAC Wall Power Supply, +15 VDC  
 -P4 100-240 ± 10% VAC Wall Power Supply, +15 VDC  
 -R 1RU Rack Mounting  
 -C Power Supply not included. Requires Cross 2000-01 Power Supply  
 -W42 Alarm Contact Terminal Strip, Dry Contact, NC-C-NO Terminations

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

