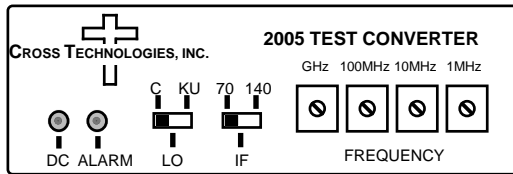


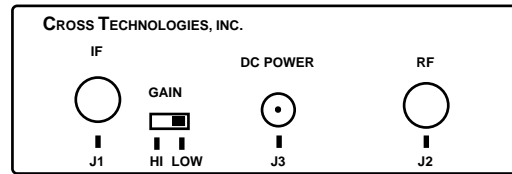
## 2005-20P Downconverter

The 2005-20 Downconverter converts a 2000 to 2500 MHz signal to 70 MHz or 140 MHz IF in 1 MHz steps with selection of high side LO (C = inverted) or low side LO (Ku = non-inverted) and 70 or 140 MHz output over the 2.0 - 2.5 GHz range for loop-back applications.

Featuring low phase noise, these units are used to loop 2.0 - 2.5 GHz receivers to 70 or 140 MHz modulators for test purposes. The input frequency is selected with four BCD switches which control the synthesized local oscillator (LO) signal. The 2.0 - 2.5 GHz input is mixed with this synthesized LO to the 70 or 140 MHz IF signal. Front panel LEDs light when DC power is applied (green) and when a PLL alarm occurs (red). The mixer output is applied to the output attenuator providing a nominal gain of +5 dB (high gain) or -15 dB (low gain). Connectors are 50Ω BNC (female) for the IF input and for the RF output (other connector options are available). Powered by a 120VAC wall power supply (100-240 ±10%VAC, **option -P4**). The 2005 can be mounted on a 1 3/4" X 19" rack mount panel (**option -R**).



**Front and Rear Panel**



### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

Impedance	50Ω
Return Loss	12 dB
Frequency	2.0 to 2.5 GHz
Level	-10 to -30 dBm
1dB compression	-5 dBm

#### Output Characteristics

Impedance	50Ω
Return Loss	15 dB
Frequency Range	70 or 140 MHz center, ± 20 MHz

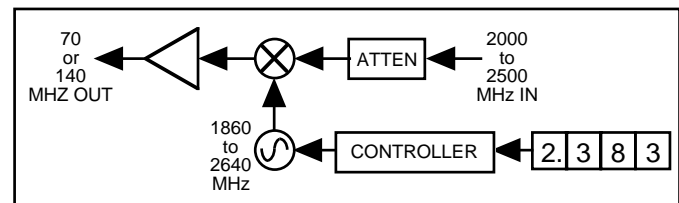
#### Channel Characteristics

Gain	-15 dB ± 3 dB (LOW GAIN) +5 dB ± 3 dB (HI GAIN)
Spurious Response	< -40dBC max, < -45dBC typ; <b>OUTPUT NOT FILTERED</b>
Frequency Response	± 2 dB, 2.0 - 2.5 GHz; ± 0.5 dB, any 10MHz increment

#### Synthesizer Characteristics

Frequency Accuracy	± 25 kHz max
Frequency Step	1.0 MHz minimum

Phase Noise @ Freq	100 Hz	1kHz	10kHz	100kHz	1 MHz
dBC/Hz	-70	-70	-80	-90	-100



**Block Diagram**

#### Indicators

Frequency Selection	BCD switches
DC Power	Green LED
PLL Alarm	Red LED

#### Other

RF, IF Connectors	BNC (female)
Size, Bench Top	4.7" wide X 1.75" high X 6.5" deep
Size, Rack Mount	19 inch standard chassis 1.75"high X 7.0" deep ( <b>option -R</b> )
Power	120 ± 10% VAC, 60 Hz, 10W max wall mount power supply
Power ( <b>option -P4</b> )	100-240 ±10% VAC, 47-63 Hz wall mount power supply ( <b>option -P4</b> )

\*10°C to 40°C; Specifications subject to change without notice

