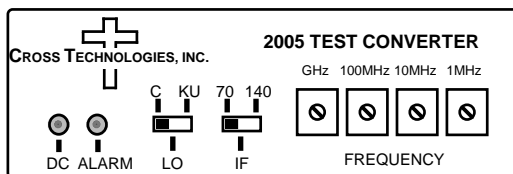


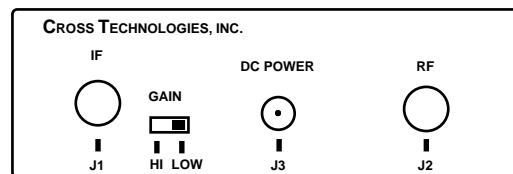
2005-22 Test Downconverter

The 2005-22 Test Downconverter converts a 950 to 2050 MHz signal to 70 MHz in 1 MHz steps with a high side 1020 to 2120 MHz LO (C, inverted spectrum) and 1070 to 2050 MHz to 70 MHz with low side 1020 to 1980 MHz LO (Ku, non-inverted spectrum). Over a limited frequency range, the 2005-22 also operates with a 140 MHz output.

Featuring low phase noise, these units are used to downconvert "clean" (having only this frequency) 950 to 2050 MHz signals to 70 or 140 MHz for test purposes. The input frequency is selected with four BCD switches which control the synthesized LO. The 950 to 2050 MHz input is mixed with a synthesized local oscillator (LO) signal to the 70 or 140 MHz IF. 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 amplifier providing a nominal gain of **0 dB** (high gain) or **-20 dB** (low gain). **Power is provided by the LNB voltage from the receiver under test and connectors are 75 ohm BNC female for the 70 MHz output and type F (female) for the RF input.** DC power for the 2005-22 can be provided by an external wall mount power supply (**option -P4**) or **by the stand alone Cross 2000-01 Power Supply (option -C)**. The 2005-22 can also be mounted on a 1RU X 19" rack mount panel (**option -R**).



Front and Rear Panel



EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance	75Ω
Return Loss	12 dB
Frequency	950 to 2050 MHz
Level	-10 to -30 dBm
1dB compression	-5 dBm

Output Characteristics

Impedance	75Ω
Return Loss	15 dB
Frequency Range	70 or 140 MHz center, ± 20 MHz

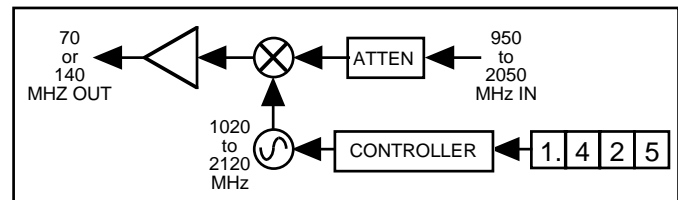
Channel Characteristics

Gain	-20 dB ± 3 dB (LOW GAIN), 0 dB ± 3 dB (HI GAIN)
Spurious Response	< -40 dBC max, < -45dBC typical; OUTPUT NOT FILTERED
Frequency Response	± 3 dB, 950-2050 MHz; ± 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	-105



Block Diagram

Controls/Indicators

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

Other

RF / IF Connectors	Type F (female), BNC (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 (option -R).
Power, Standard (P)	120 ± 10% VAC, 60 Hz, 10W max. wall mount power supply, +15VDC unregulated, 600 ma.
<u>Power Supply Options:</u>	
(Option P4):	100-240 ±10% VAC, 47-63 Hz wall mount power supply, +15VDC unregulated, 600 ma.
(Option C):	No power supply - Requires external 2000-01 power supply.

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