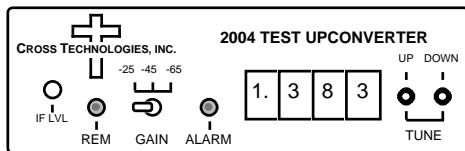
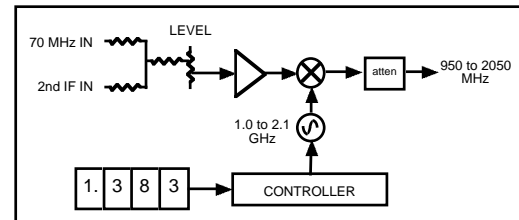


2004 Upconverter, 950 - 2050 MHz

The 2004 takes a 70 MHz IF signal and converts it to 950 to 2050 MHz in 1MHz steps with a high side 1020 to 2120 MHz LO for loop-back applications. Over a limited frequency range, the 2004 also operates with a 140 MHz input (950 - 1980 MHz out with high side LO; 1160 - 2050 MHz out with low side LO) and 70 MHz in with low side LO (1090 - 2050 MHz out). The IF input is mixed with a synthesized 1020 - 2120 MHz local oscillator signal. The output frequency is selected with up and down push button switches which control the synthesized oscillator. An alarm LED lights and an open drain FET closes to ground when the PLL is unlocked. A yellow LED indicates remote operation. The mixer output goes to a switched attenuator providing IF to RF gains of -25, -45, or -65dB. Power is provided by a wall-mount power supply and connectors are BNC female. The 2004 is housed in a bench-top chassis. An optional 1RU rack mount package (option -R) is available.



2004 FRONT PANEL



2004 BLOCK DIAGRAM

EQUIPMENT SPECIFICATIONS*

Input Characteristics

Impedance / RL	75Ω / 15dB
Frequency	70 or 140 MHz center
Level	-20 to -10 dBm
1dB Compression	+5dBm

Output Characteristics

Impedance / RL	75Ω / 10dB
Frequency	950 to 2050 MHz (70 MHz IF, high side LO)
Level	selectable -35dBm, -55dBm, or -75dBm with -10dBm in

Channel Characteristics

Gain	Selectable -25, -45 dB, -65 dB ±3 dB
Spurious Response	NA; output not filtered
Frequency Sense	Inverted (C) or Non-inverted (Ku)
Frequency Response	±3 dB, 950 - 2050 MHz @ -25, -45 gain; ±0.5 dB, any 10 MHz increment

Synthesizer Characteristics

Frequency Accuracy	± 25 kHz maximum
Frequency Step	1.0 MHz minimum
Phase Noise	< -80 @ 10kHz; < -90 @ 100kHz; < -100 @ 1MHz

Controls

Frequency Selection	Push-button switches with direct frequency readout
Output Level	Potentiometer and Toggle switch

Indicators

PLL Alarm	Red LED (with FET open drain)
Remote	Yellow LED

Other

RF Connectors	BNC (female)
IF Connectors	BNC (female)
Size, Bench Top	4.7" wide X 1.75" high X 12.5" deep
Size, (option -R)	19 inch standard chassis 1.75" high X 13.0" deep (rack mount option)
Power (std)	120 ±10% VAC, 60Hz, 20 watts max, wall mount power supply
Model 2004-01	No power supply, Requires 2000-01 Universal Power Supply, 100-240 ±10% VAC, 60Hz, 20 watts max. (not included)

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