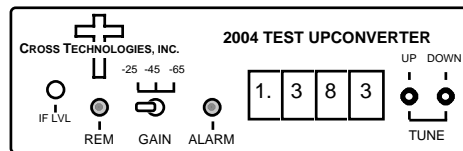


**2004 Test Upconverter, 950 - 2050 MHz**

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. 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**

**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 < -40 dBC max; -45 dBC typ (F<sub>C</sub> ± 20 MHz)  
 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**

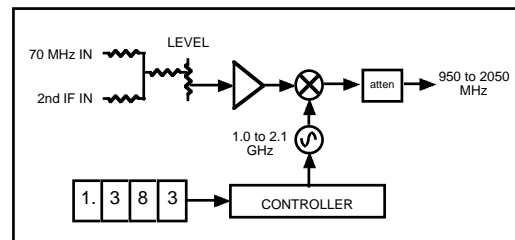
Frequency Selection Push-button switches with direct frequency readout  
 Output Level Potentiometer and Toggle switch

**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 120 ± 10% VAC, 60Hz, 20 watts max, wall mount power supply



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