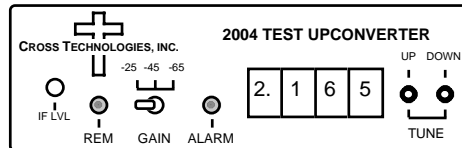


## 2004-10 Test Upconverter, 2.0 - 2.4 GHz

The 2004-10 takes a 70 or 140 MHz IF signal and converts it to 2.0-2.4 MHz in 1MHz steps with a high or low side LO. The IF input is mixed with a synthesized 1.8 - 2.5 GHz 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 2004-10 is housed in a bench-top chassis. An optional 1RU rack mount package (option -R) is available.



**2004-10 FRONT PANEL**

### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

Impedance / RL	50/75Ω / 15dB
Frequency	70 or 140 MHz center
Level	-20 to -10 dBm
1dB Comp / 3rd Order	+5dBm / +15dBm

#### Output Characteristics

Impedance / RL	50/75Ω / 10dB
Frequency	2.0 to 2.4 GHz (70 or 140 MHz IF, high or low side LO)
Level	selectable -35dBm, -55dBm, or -75dBm with -10dBm in

#### Channel Characteristics

Gain	Selectable -25, -45 dB ±4 dB, -65 dB ±6 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	±4 dB, 2.0 - 2.4 GHz @ -25, -45 gain; ±0.7 dB, any 10 MHz increment

#### Synthesizer Characteristics

Frequency Accuracy	± 50 kHz maximum
Frequency Step	1.0 MHz minimum
Phase Noise	< -75 @ 10kHz; < -90 @ 100kHz; < -100 @ 1MHz

#### Controls

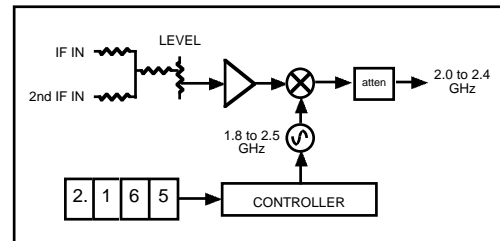
Frequency Selection	Push-button switches with direct frequency readout
Output Level	Potentiometer and Toggle switch

#### 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