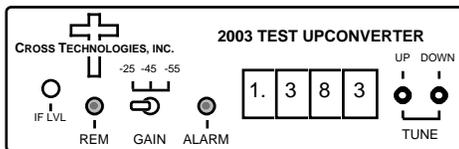
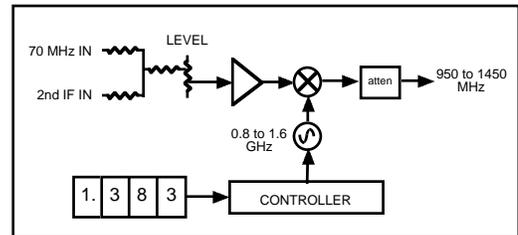


## 2003 Upconverter, 950 - 1450 MHz

The 2003 takes a 70 or 140 MHz IF signal and converts it to 950 - 1450 MHz in 1MHz steps for loop-back applications. The IF input is mixed with a synthesized 1020 - 1520 (C) or 880 - 1380 (Ku) MHz local oscillator. Push-button switches control the synthesized oscillator which determines the output frequency. Pushing these switches simultaneously allows selection of high side LO (C) or low side LO (Ku) and 70 or 140 MHz input. 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 -55dB. Power is provided by a wall-mount power supply and connectors are BNC female. The 2003 is housed in a bench-top chassis. An optional 1RU rack mount package (**option -R**) is available.



**FRONT PANEL**



### EQUIPMENT SPECIFICATIONS\*

#### Input Characteristics

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

#### Output Characteristics

Impedance / RL	50Ω / 75Ω 10dB
Frequency	950 to 1450 MHz
Level	selectable -35dBm, -55dBm, or -65dBm with -10dBm in

#### Channel Characteristics

Gain	Selectable -25, -45 dB, -55 dB ±3 dB
Spurious Response	< -40 dBC max; -45 dBC typ ( $F_c \pm 20$ MHz)
Frequency Sense	Inverted (C) or Non-inverted (Ku)
Frequency Response	±3 dB, 950 - 1450 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	50/75 BNC (female)
IF Connectors	50/75 BNC (female)
Size, Bench Top	4.7" wide X 1.75" high X 12.5" deep
Size, ( <b>option -R</b> )	19 inch standard chassis 1.75"high X 13.0" deep ( <b>rack mount option-2003R</b> )
Power (std)	120 ±10% VAC, 60Hz, 20 watts max, wall mount power supply
<b>Model 2003-01</b>	No power supply, Requires <b>2000-01</b> Universal Power Supply, 100-240 ±10% VAC, 60Hz, 20 watts max. (not included)

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