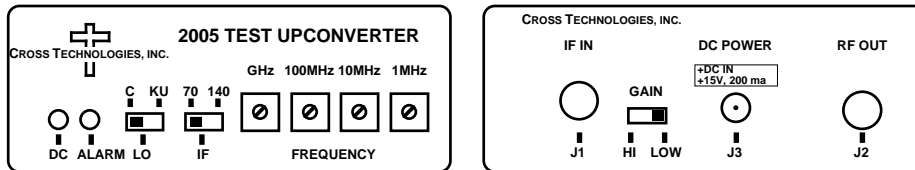


2005-02,-03 Test Upconverters

The **2005-02** converts a 70 MHz signal to a 950-2050 MHz output signal range in 1 MHz steps utilizing a high-side LO (C-band) that ranges from 1020 to 2120 MHz. The 2005-02 can also operate over a limited output frequency range converting a 70 MHz signal to 1090-2050 MHz utilizing a low-side LO (Ku-band), a 140 MHz signal to 950-1980 MHz utilizing a high-side LO, and a 140 MHz signal to 1160-2050 MHz utilizing a low-side LO. The **2005-03** converts a 70 or 140 MHz signal to the full 950-1450 MHz output signal range in 1 MHz steps with either a high-side LO (C-band) or a low-side LO (Ku-band). The LO frequency ranges from 810 to 1590 MHz.

Featuring low phase noise, these units are used to loop 70 or 140 MHz modulators to L-band receivers in uplinks. The 70 or 140 MHz "clean" carrier input (containing only the desired 70 or 140 MHz signal) is mixed with a synthesized local oscillator (LO) signal. The output frequency is selected with four BCD switches which control the synthesized LO. 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 attenuator providing a nominal gain of -10 dB (high gain) or -30 dB (low gain). Power is provided by the LNB voltage from the receiver under test and connectors are BNC (female) for the IF input and type F (female) for the RF output. Optionally, the 2005 can be powered by an external wall mount power supply (**option -P or -P4**). The 2005 can be mounted on a 1 3/4" X 19" rack mount panel (**option -R**).



Front and Rear Panels

EQUIPMENT SPECIFICATIONS*

Input Characteristics

- Impedance 75 Ω / 15 dB
- Return Loss 12 dB
- Frequency 70 or 140 MHz center
- Input Level -10 to -40 dBm
- 1 dB comp / 3rd order 0/+10 dBm (low gain); -20/-10 dBm (high gain)

Output Characteristics

- Impedance 75 Ω
- Return Loss 8 dB
- Frequency Band 950 - 2050 MHz (-02); 950 - 1450 MHz (-03)

Channel Characteristics

- Gain (at 1200 MHz) **-20 ± 3 dB** (low gain); **-5 ± 3 dB** (high gain)
- Spurious Response NA; output not filtered
- Frequency Response ±4 dB, 950-2050 MHz (-02); ±3 dB, 950-1450 MHz (-03); ±0.5 dB, any 10 MHz increment

Synthesizer Characteristics

- Frequency Accuracy ± 25 kHz max
- Frequency Step 1.0 MHz minimum

Phase Noise @ Freq	10kHz	100kHz	1 MHz
dBC/Hz	-80	-90	-100

Controls

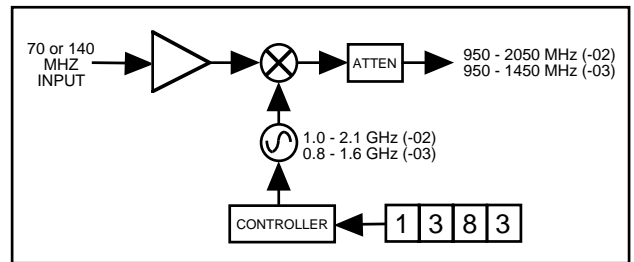
- L-Band Freq Selection BCD switches with direct readout
- LO, IF Freq Selection SPDT slide switches

Indicators

- DC Power; Alarm Green LED; Red LED

Other

- RF, IF Connector F type (female), BNC (female)
- Size 4.7" wide X 1.75" high X 6.5" deep (**Bench Top**); 19-inch standard 1RU chassis 1.75"H x 7.0"D (**option -R**)
- Power +14 to +20 VDC, 200ma on RF IN; 120 ± 10% VAC, 60Hz (**option -P**); 90-260VAC, 47-63Hz (**option -P4**)
- Power (**option -P, -P4**) 120 ± 10% VAC, 60Hz (**option -P**), 90-260VAC, 47-63Hz (**option -P4**) wall mount power supply



Block Diagram

*+10°C to +40°C; 2000 meters max elevation; 80% max humidity; Pollution Degree 2; Specifications subject to change without notice