2005-22P Downconverter

The 2005-22P Downconverter converts a 950 to 2050 MHz signal to 70 MHz in 1 MHz steps with a high side 1020 to 2120 MHz LO (C, inverted spectrum) and 1070 to 2050 MHz to 70 MHz with low side 1020 to 1980 MHz LO (Ku, non-inverted spectrum) for loop-back applications. Over a limited frequency range, the 2005-22 also operates with a 140 MHz output.

Featuring low phase noise, these units are used to downconvert “clean” (having only this frequency) 950 to 2050 MHz signals to 70 or 140 MHz for test purposes. The input frequency is selected with four BCD switches which control the synthesized LO. The 950 to 2050 MHz input is mixed with a synthesized local oscillator (LO) signal to the 70 or 140 MHz IF. 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 amplifier providing a nominal gain of 0 dB (high gain) or -20 dB (low gain). Power is provided by the LNB voltage from the receiver under test and connectors are 75 ohm BNC female for the 70 MHz output and type F (female) for the RF input. DC power for the 2005-22 can be provided by an external wall mount power supply (option -P4) or by the stand alone Cross 2000-01 Power Supply (option -C). The 2005-22 can also be mounted on a 1RU X 19” rack mount panel (option -R).

**Input Characteristics**
- Impedance: 75Ω
- Return Loss: 12 dB
- Frequency: 950 to 2050 MHz
- Level: -10 to -30 dBm
- 1dB compression: -5 dBm

**Output Characteristics**
- Impedance: 75Ω
- Return Loss: 15 dB
- Frequency Range: 70 or 140 MHz center, ± 20 MHz

**Channel Characteristics**
- Gain: -20 dB ± 3 dB (LOW GAIN), 0 dB ± 3 dB (HI GAIN)
- Spurious Response: < -40 dBc max, < -45dBc typical; OUTPUT NOT FILTERED
- Frequency Response: ± 3 dB, 950-2050 MHz; ± 0.5 dB, any 10MHz increment

**Synthesizer Characteristics**
- Frequency Accuracy: ± 25 kHz max
- Frequency Step: 1.0 MHz minimum

**Phase Noise @ Freq**
- 100 Hz: -70 dBc/Hz
- 1kHz: -70 dBc/Hz
- 10kHz: -80 dBc/Hz
- 100kHz: -90 dBc/Hz
- 1 MHz: -105 dBc/Hz

**Controls/Indicators**
- Frequency Selection: BCD switches
- DC Power: Green LED
- PLL Alarm: Red LED

**Other**
- RF / IF Connectors: Type F (female), BNC (female)
- Size, Bench Top: 4.7” wide X 1.75” high X 6.5” deep.
- Size, Rack Mount (R): 19 inch standard chassis 1.75” high X 7.0” deep (option -R).
- Power, Standard (P): 120 ± 10% VAC, 60 Hz, 10W max. wall mount power supply, +15VDC unregulated, 600 ma.

**Power Supply Options:**
- (Option P4): 100-240 ±10% VAC, 47-63 Hz wall mount power supply, +15VDC unregulated, 600 ma.
- (Option C): No power supply - Requires external 2000-01 power supply.

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