The 2083-22 Frequency Translator converts 225-295 MHz to 950-1020 MHz with no spectrum inversion, low group delay, and flat frequency response. The input signal is mixed with synthesized local oscillator (LO) signals, first to 1750 MHz and finally to the output signal. Multifunction push button switches select the gain (-10 to +30 dB, adjustable), and 10 MHz reference. These settings appear on the LCD display. Front panel LEDs light when DC power is applied (green), a PLL alarm occurs (red), the signal is muted (yellow), or remote control is active (yellow). A 10 MHz input allows for connection of an external 10 MHz reference. The 10 MHz output contains the 10 MHz reference signal (be it internal or external). Connectors are BNC female for the input, output, 10 MHz input, and 10 MHz output. The 2083-22 is housed in a 1 3/4” X 19” X 16” deep rack mount chassis. Option -H provides a ±0.01 ppm high stability reference.

EQUIPMENT SPECIFICATIONS*

**Input Characteristics**
- Input Impedance/RL: 50Ω/14 dB
- Frequency: 225 to 295 MHz
- Input Level: -40 to -10 dBm
- Input 1 dB compression: 0 dBm

**Output Characteristics**
- Impedance/RL: 50Ω/12 dB
- Frequency: 950 to 1020 MHz
- Output level: 0 to -20 dBm
- Output 1 dB comp.: +5 dBm

**Channel Characteristics**
- Gain, adjustable: -10 to +30 dB, 1 dB steps
- Spurious Response: <-50 dBC
- Bandwidth: ±35MHz, ±0.7dB
- Group Delay, max: 0.0035 ns/MHz² parabolic; 0.03 ns/MHz linear; 1 ns ripple
- 10MHz In/Out Level: 3 dB ± 3 dB
- Frequency Sense: Non-inverting

**Synthesizer Characteristics**
- Frequency Accuracy: ±1.0 ppm internal reference (±0.01 ppm option -H)
- Phase Noise @ Freq dBC/Hz:
  - 100 Hz: -70
  - 1 kHz: -70
  - 10 kHz: -80
  - 100 kHz: -95
  - 1 MHz: -110

**Controls, Indicators**
- Frequency Translation: Direct readout LCD display
- Gain Selection: Direct readout LCD display; push-button switches or remote selection
- Power; Alarm; Mute: Green LED; Red LED; Yellow LED
- Remote: Yellow LED; RS232C, 9600 baud

**Other**
- Input/Output Connectors: BNC (female), 50 Ω
- 10MHz Connectors: BNC (female), 50/75 Ω
- Alarm Connector: DB9 - NO or NC contact closure on Alarm
- Size: 19 inch standard chassis 1.75” high X 16.0” deep
- Power: 100-240 ±10% VAC, 47 - 63 Hz, 45 watts max.

**Options**
- -H: High Stability, ± 0.01 ppm internal reference

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