Textron Systems’ VXI RF Synthesizer provides an unmatched combination of frequency coverage, power range, signal fidelity, switching speed, and internal and external modulation capability. It can be utilized as a general-purpose benchtop signal generator, in complex automated test equipment (ATE) systems, or in electronic warfare simulators.

- 0.003 to 40 GHz frequency range
- +18.5 to -100 dBm output power from 0.003 to 20 GHz
- +5 to -100 dBm output power from 20 to 40 GHz
- <500 ns switching speed between any two frequencies
- Vector signal generation
- AM, FM, Pulse, I/Q, MSK, PSK, BPSK, QPSK, OQPSK, DQPSK, 8PSK, 16PSK, QAM: 4, 16, 32, 64, 256 and user-defined modulation schemes
- Supports external modulation inputs
- Excellent spectral purity, low phase noise
- Small footprint: C-Size VXIbus, 2 slot width
Textron Systems' VXI RF Synthesizer is an ideal combination microwave/vector signal generator for ATE applications. Our VXI RF Synthesizer offers excellent signal purity and low phase noise, with a small C-size, 2-slot VXI bus footprint. It also supports external modulation inputs.

### FEATURES AND SPECIFICATIONS

**PHYSICAL CHARACTERISTICS**

- Format: Two slot VXI C size module
- Envelope size: 10.4 in. x 2.4 in. x 14.5 in.
- Weight: 11.5 pounds

**COMMUNICATIONS INTERFACE**

- VXI 3.0 register interface device
- A16A32/D16D32 DTB slave interface
- Short and extended non-privileged and supervisory data access
- Switch programmable base address (32 MB block address boundaries)

**FRONT PANEL INPUT/OUTPUT CONNECTORS**

- 2.4mm jack RF output connector:
  - 3 MHz to 40 GHz
- SMA jack reference input connector:
  - 500 MHz reference input signal
- DSub (8W8) external analog modulation input connector:
  - AM, FM, Pulse, Analog I, Analog Q, Trigger 1 In, Trigger 2 In, Trigger Out
- Dual 50 pin (0.1 in. pin spacing header) external parallel digital I/Q modulation data or BCD frequency programming data input connector:
  - 16 bits I data, 16 bits Q data, I/Q data clock
  - 44 bits BCD frequency programming data and data strobe
- DSub (25 pin) external serial digital I/Q and misc. I/O connector:
  - Serial data input (LVTTL)
  - Serial data clock input (LVTTL)
  - Serial data symbol sync input (LVTTL)
  - Serial data pattern trigger input (LVTTL)
  - Serial data burst input (LVTTL)
  - External event 1 output (LVTTL)
  - External event 2 output (LVTTL)
  - Source settled output (LVTTL)
  - Sync output (LVTTL)
  - Pulse output (LVTTL)
  - Trigger output (LVTTL)
  - Sweep output (0-10V)

### FREQUENCY PERFORMANCE CHARACTERISTICS

- Frequency range: 3 MHz to 40 GHz
- Frequency resolution: 0.04 Hz
- Frequency accuracy:
  - 500 MHz reference oscillator is locked to an internal or external 10 MHz reference. The accuracy of the reference oscillator's internal 10 MHz is +/- 50 ppb. The normal mode of operation is to use a 10 MHz signal obtained from an external Rubidium oscillator.
- Frequency switching speed:
  - < 500 nS in any of three bands
  - 3 to 500 MHz, 0.5 to 20 GHZ, 20 to 40 GHz
  - < 15 mS across any band break
- Spurious:
  - < -55 dBC maximum @ +10 dBm output power level (-60 dBC typical)

### POWER PERFORMANCE CHARACTERISTICS

- Power range:
  - +18.5 to -100 dBm over 3 MHz to 20 GHz
  - +5 to -100 dBm over 20 to 40 GHz
- Power resolution: 0.02dB
- Power sweep range: 40 dB max (+10 to -30 dBm)
- Trigger Capability:
  - Supports 8 TTL and 2 ECL VXI bi-directional backplane trigger signals
  - Supports two front panel, +/- 3.3 V programmable threshold level, trigger input signals
  - Supports one front panel, LVTTL trigger output signal
  - Provisions for two programmable internal trigger sources

### ENVIRONMENT

- Designed to:
  - Operating temperature: 0 to +50 degrees Celsius
  - Non-operating temperature: -40 to +71 degrees Celsius
  - Humidity: 5 to 95% non-condensing
  - Altitude: 0 to 6,000 feet
  - Vibration: MIL-PRF-28800F paragraph 3.8.4.1 class 4 equipment
  - Shock: MIL-STD-190 grade B

Detailed specifications are available on request.