

VXI RADIO FREQUENCY (RF) SYNTHESIZER



Part number:
40407-40008-10

HIGH-PERFORMANCE RF/MICROWAVE SIGNAL AND VECTOR SIGNAL GENERATION FOR VXIBUS SYSTEMS

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 .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 is an expert in multi-application ATE.



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VXI SYNTHESIZER

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 (LVTTTL)
 - Serial data clock input (LVTTTL)
 - Serial data symbol sync input (LVTTTL)
 - Serial data pattern trigger input (LVTTTL)
 - Serial data burst input (LVTTTL)
 - External event 1 output (LVTTTL)
 - External event 2 output (LVTTTL)
 - Source settled output (LVTTTL)
 - Sync output (LVTTTL)
 - Pulse output (LVTTTL)
 - Trigger output (LVTTTL)
 - Sweep output (0-10V)

Textron Systems

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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, LVTTTL 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