



VMESG-18

SYNTHESIZER SPECIFICATION



WIDE FREQUENCY RANGE: 0.5 to 18 GHz

FEATURES

- Broad Frequency Bandwidth: 0.5 to 18 GHz
- 200 usec Speed
- -138 dBc/Hz Phase Noise Floor
- -60 dBc Spurious
- Low Phase Noise: -100 dBc/ Hz at 100 KHz Offset, at 18 GHz

BENEFITS

- Light Weight
- Small Size
- Low Cost
- High Performance



OPTIONS

- Frequency Range: 0.05 to 20 GHz
- Frequency Resolution: 1 Hz
- Fast Switching Speed: 100 usec
- Ethernet Interface
- GPIB Interface
- RS- 232 Interface
- BCD Interface

APPLICATION

- SIGINT
- EW
- Flight Line Testers
- COMINT
- ELINT

GENERAL DESCRIPTION

The VMESG-18 Synthesizer was developed as a “Synthetic Instrument” for flight line test equipment, where its small size, light weight and high performance characteristics are paramount. The modular design of this instrument allows for many performance and interface options. Elcom’s VME Series Synthesizers are similar in design to the IBS Series with the added benefit of an extremely compact 3-4 slot design.



SPECIFICATIONS

Frequency Resolution:	10 KHz
Switching Speed:	200 us
Spurious:	-60 dBc
Harmonics:	-55 dBc
Output Power:	+11 dBm
Flatness:	± 1 dB

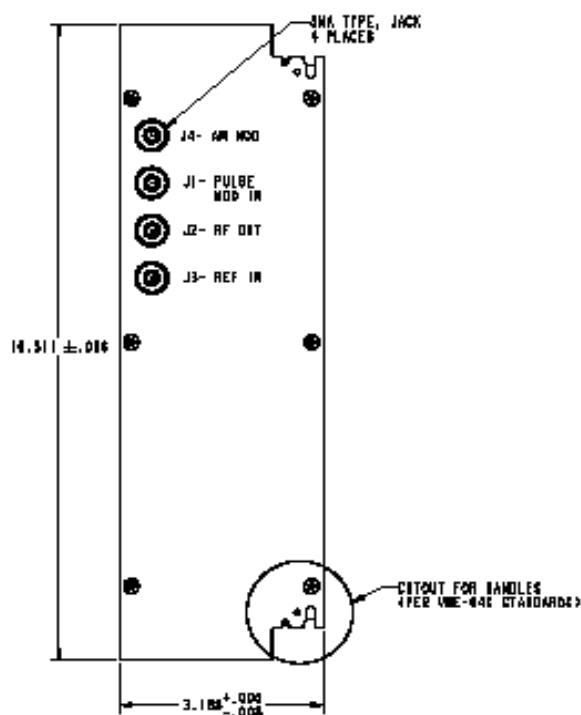
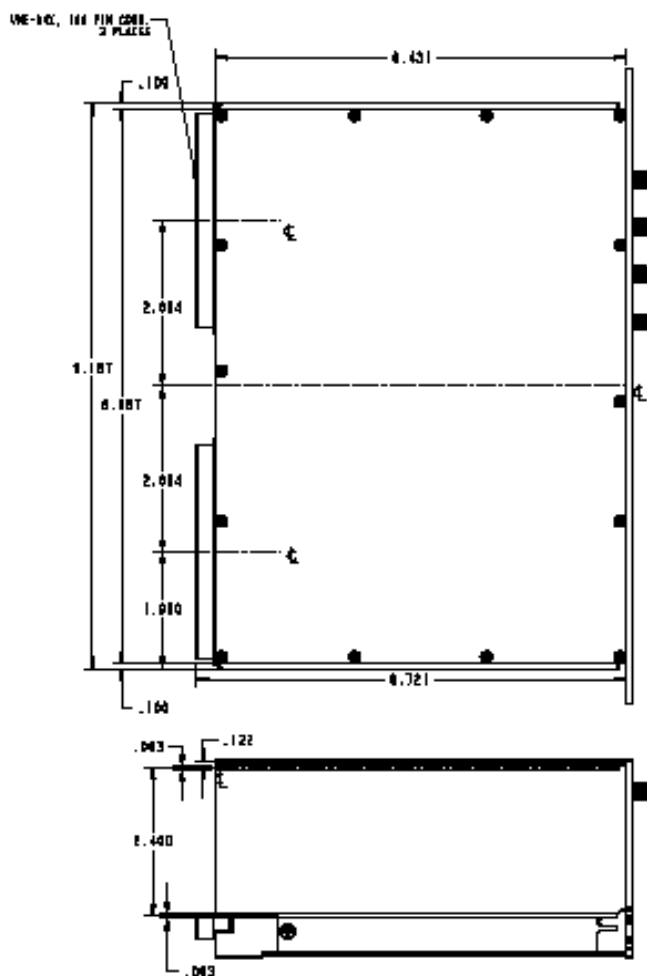
SSB Phase Noise @ Fc = 10 GHz:

Offset	dBc / Hz
100 Hz	-75
1 KHz	-90
10 KHz	-100
100 KHz	-105
1 MHz	-117
10 MHz	-138

Input Reference:	+10 MHz, 0 dBm ± 3 dB
Pulse Modulation:	70 dB ON/OFF Ratio -55 dBm Video Leakage
Amplitude Modulation:	60 dB Depth 100 KHz Bandwidth 0.1 dB Resolution
Frequency Modulation:	± 50 KHz Doppler Linear Sweep
Remote Programming:	IEEE-488 / GPIB or Ethernet / BCD 44 bits optional
Temperature Range:	-20° C to 60° C Operating -40° C to 70° C Storage
Power Requirements:	+5V, ± 12 V, 40 Watts
Weight:	< 9 Pounds
Form Factor:	VME 3-4 Slots
Interface:	VME 64



- OPT 100 Fast Switching, 100 usec
- OPT 101 Frequency Resolutions, Selectable to 1 Hz
- OPT 102 Ethernet Interface
- OPT 103 GPIB Interface
- OPT 104 RS- 232 Interface
- OPT 105 BCD Interface



NOTES:
1. FINISH:
1.1. INSULING: BRIGHT NICKEL PER QQ-N-290, GRADE F, 0.0001"-0.0004" MIN OVER
ELECTROLESS NICKEL PER MIL-C-26174, CLASS 4, 0.00025" MIN
1.2 COVERS AND BRACKET: ASTM B444, CLASS 3

VMESG-18 Synthesizer Mechanical Outline



ABOUT FEI-ELCOM TECH

Elcom designs and manufactures instruments and modules in the RF and Microwave frequency spectrum for broadband and narrow band applications in ATE, Aerospace/Defense, SIGINT and commercial communications. Proprietary technologies include low phase noise fast switching direct analog synthesis, low noise indirect PLL designs, and RF DSP up to 40GHz.

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