

## VMESG

### 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

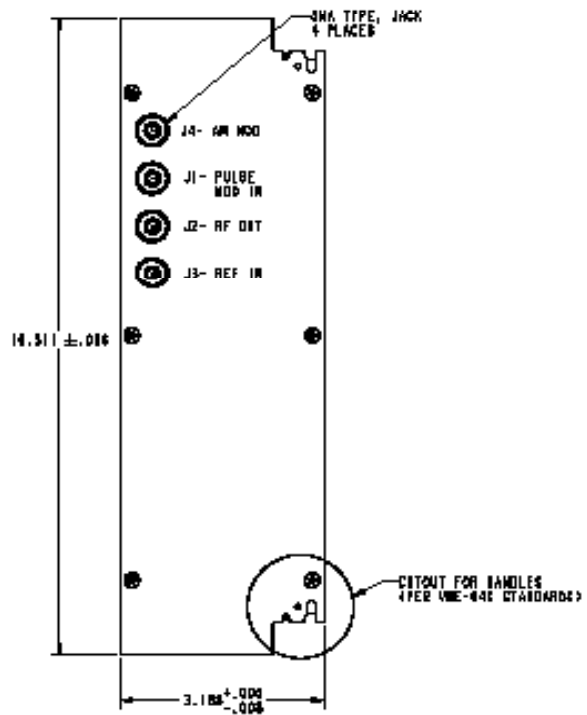
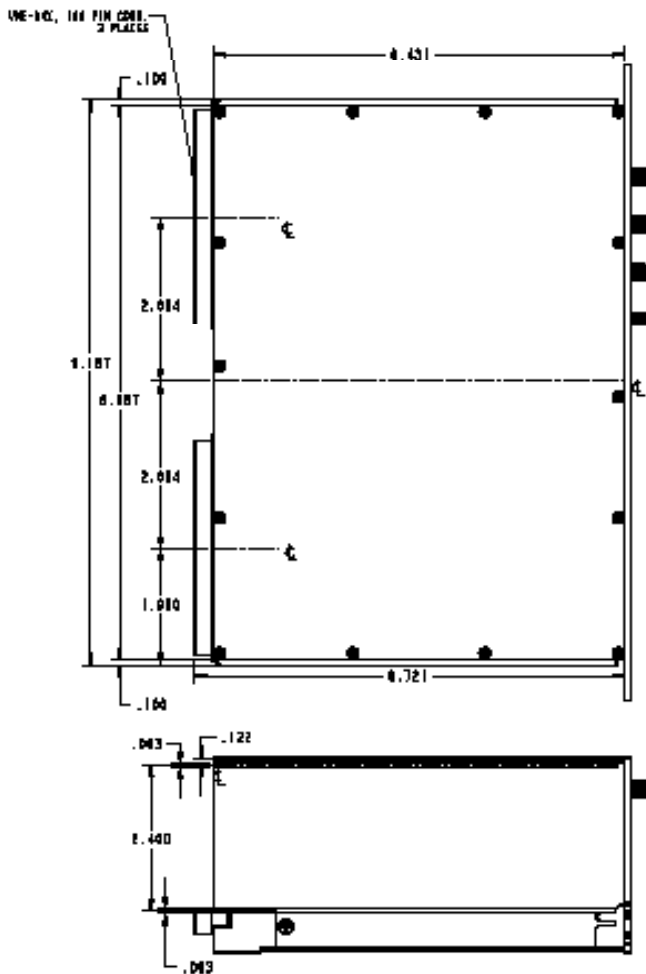
Frequency Resolution:	10 KHz
Switching Speed:	200 us
Spurious:	-60 dBc
Harmonics:	-55 dBc
Output Power:	+11 dBm
Flatness:	$\pm 1$ dB

### 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 $\pm 3$ 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:	$\pm 50$ 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, $\pm 12$ 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. HOUSING: BRIGHT NICKEL PER QQ-M-290, GRADE F, 0.001"-0.004" MIN OVER  
 ELECTROLESS NICKEL PER MIL-C-26874, CLASS 4, 0.0025" MIN  
 1.2. COVERS AND BRACKET: ASTM B444, CLASS 3

## VMESG Synthesizer Mechanical Outline

## **ABOUT ELCOM TECHNOLOGIES**

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.

## **FOR ADDITIONAL INFORMATION PLEASE CONTACT**

*Elcom Technologies, Inc.*

*11 Volvo Drive*

*Rockleigh, New Jersey 07647*

Tel: (201) 767-8030

Fax: (201) 767-1326

[sales@elcom-tech.com](mailto:sales@elcom-tech.com)

**Note:** These documents may contain Elcom Proprietary Information and are to be used only for the purposes for which they have been supplied and are not to be duplicated or disclosed in whole or in part without written permission from a duly authorized representative of Elcom Technologies.

*\*\*Export of Elcom Technologies products is subject to U.S. export controls. Licenses may be required.*