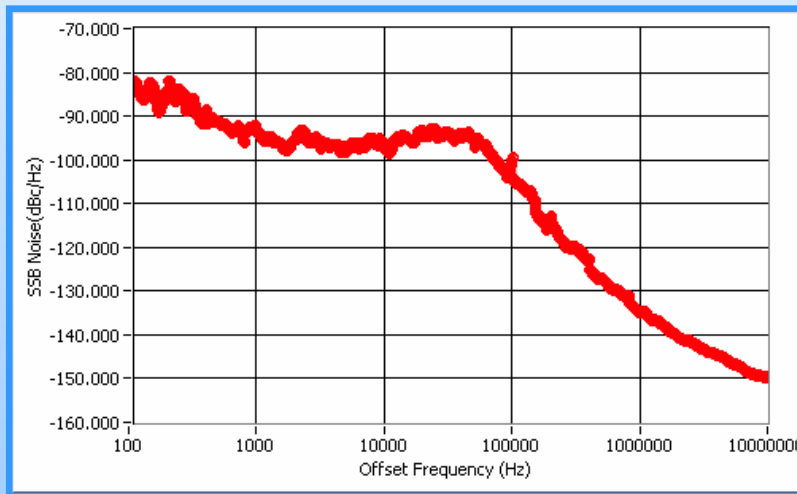# VDI Economy Synthesizer

- >2 GHz Bandwidth Synthesizer up to 16 GHz maximum frequency

- 3 mS switching speed

- 12 Hz step size

- Good phase noise

- USB control with software

Phase Noise @ 10 GHz

Product Description

VDI synthesizers were designed specifically for VDI sources and receivers. The economy synthesizer offers a compact, streamlined, low cost solution for obtaining a fundamental source to drive VDI multiplier chains. The economy synthesizer offers a significant improvement in cost, size, and power consumption versus the standard VDI synthesizer by compromising phase noise, bandwidth, and sweeping capabilities.

The frequency can be controlled by a PC through a USB connection with software provided. Stepping the continuous wave frequency using USB commands can be accomplished in 3 mS across the band with a step resolution of 6 Hz. The synthesizer can be phase locked to a 10 MHz reference, and mounted in a single housing with the VDI multiplier chain. The synthesizer is programmed by sending ASCII text commands over the USB, and open source code for the user interface is also provided in Labview 7.0. Customized solutions are available

Virginia Diodes

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VDI Economy Synthesizer Data Sheet

- Bandwidth: >2 GHz up to 16 GHz maximum frequency.
- Output power: Optimally configured for the VDI multiplier chain.
- Resolution: 12 Hz
- Harmonics: <-15dBc
- Non-harmonic spurs: <-45dBc
- CW Switching time: 3 mS
- Frequency stability: limited by reference oscillator
- Frequency repeatability: limited by reference oscillator
- Absolute frequency accuracy: <3Hz + reference oscillator error
- Reference input: 10MHz, 10dBm, SMA
- Typical phase noise See graph on front side of handout
- Interface: USB control by ASCII text commands to FTDI chip. Open source code provided for Labview 7.0.
- Size: LxWxH: ~3.5x2.875x1.25" excluding connectors
- DC Power: +15V ~1A, -5V ~30mA

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