

KRATOS | GENERAL MICROWAVE

Microwave Electronics Division

CUSTOM COHERENT DIRECT SYNTHESIZERS

KRATOS GENERAL MICROWAVE is a world leader in the design and production of Frequency Synthesizers. The Frequency Synthesizer product line includes a wide range of Direct Synthesizer, that are custom designed for specific custom applications.

Main Features

- Broad Frequency Range
- Ultra-Fast Switching Speed (<50 ns)
- Low Phase Noise
- Guaranteed Coherency
- Airborne



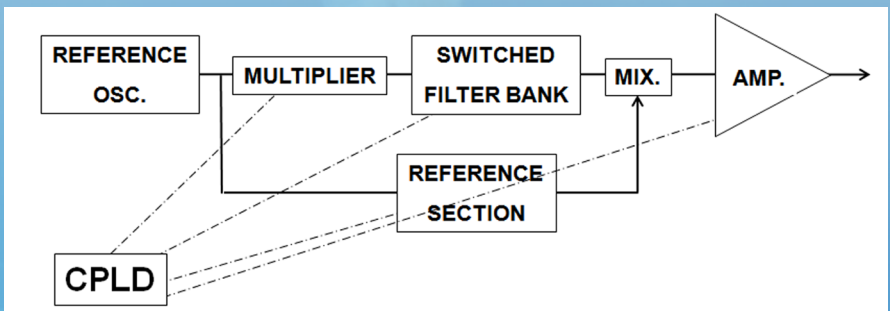
Typical Applications

KRATOS GENERAL MICROWAVE's Direct Synthesizers are custom designed products. They are designed to be used in electronic systems that require a high performance frequency source with the following features: High accuracy, high stability over temperature and time, low phase noise, and phase coherency. They are used in systems such as EW, SIGINT, and simulators. In addition used in automatic test systems and test equipment.

Direct Synthesizer - Block Diagram

The Direct Synthesizer utilizes a high performance reference crystal oscillator. The signal is multiplied, filtered and selected by the mixer. The compensated broadband amplifier sets the output to the required power level over frequency and temperature. The operation of the Direct Synthesizer is controlled by the CPLD.

The modular design of the Direct Synthesizer, enables us to adapt it for various specific requirements.



Typical specifications - Direct Synthesizer

	PARAMETER	SPECIFICATION
1	Frequency Range (GHz)	9 to 15
2	Frequency Settling Time, max. (nSec.)	50
3	Step Size, max. (MHz)	50
4	Output Power, min. (dBm)	10
5	Reference Crystal Oscillator (MHz)	100
6	Harmonics, max. (dBc)	-40
9	Spurious, max. (dBc)	-40
10	Phase Noise, max (dBc/Hz)	
10.1	@1 kHz offset	-90
10.2	@10 kHz offset	-105
10.3	@100 kHz offset	-113
10.4	@1 MHz offset	-115

ABOUT KRATOS GENERAL MICROWAVE

KRATOS General Microwave is a recognized worldwide leader in the design and manufacture of high performance, state-of-the-art microwave components and sub assemblies for the defense and non-defense markets with over 60 years of proven experience.

KRATOS General Microwave products are used in a variety of demanding environments, including missiles, airborne, naval and ground systems.

In addition to Frequency Synthesizers KRATOS General Microwave offers a range of broadband microwave products such as: Solid State Power Amplifiers (SSPAs), Integrated Microwave Assemblies (IMAs), Data Link modules, and Control Components.

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