



INTEGRATE IT!

Microwave Solutions



- **Design to Manufacturing of Components and Subsystems in RF/IF to Millimeterwave**
- **Multi-Mix® Microtechnology**
- **Wide Range of Microwave Components**
- **Advanced Control and Conversion Assemblies**
- **Specialized Low Noise Oscillators and Signal Generation Assemblies**

Solution Overview

Crane Aerospace & Electronics, Microwave Solutions, specializes in the design and manufacture of high performance millimeter wave, microwave, RF and IF components, subsystems and systems for government, industrial and military end-use customers. We are a total support solution enterprise offering our customers solution sets including electronic manufacturing services, engineering support services, product development and production in world class-manufacturing operations. Our main focus is complete customer satisfaction through variation elimination throughout the enterprise processes.

Product Offerings/Capabilities

Our engineering teams' expertise ranges from our components architectures through full system engineering, especially for complex designs in severe environments. We can bring your internally developed product to full production providing assembly, tune and test in the IF, RF, microwave and millimeter

wave spectrums. Typical contract manufacturers lack the technology and expertise to support these products.

Our facilities offer both small lot and high volume manufacturing. Close contact and communication with our customers is maintained to consistently meet the manufacturing needs of their programs. Lean manufacturing techniques to optimize manufacturing efficiency and accuracy are employed on all product lines.

We excel at subsystem manufacturing. With our large, existing design library of circuits, components and subsystems, coupled with our years of experience in designing and manufacturing our breadth of products, Microwave Solutions is the logical partner for design and manufacture of your critical subsystems.

Crane Aerospace & Electronics team

Crane Aerospace & Electronics is a major supplier of systems and components for critical aerospace and defense applications. They are designed for some of the toughest environments – from engines to landing gear; satellites to medical implants; and missiles to unmanned aerial systems (UAS). From application engineering, through design and manufacturing, Crane Aerospace & Electronics offers a comprehensive approach to product specification, design certification and service.



Product Lines

Multi-Mix® Microtechnology: Innovative process for microwave, multilayer integrated circuits and micro-multifunction modules (MMFM®) using a fusion bonding process. UHF to MM wave modules.

Complex Oscillator Assemblies: Including advanced frequency synthesizers, Digitally Tined Oscillators (DTOs), Phase Locked Oscillators (PLOs), Multiple Output master oscillators. Frequencies from 50 MHz to 20 GHz.

Low Noise Fundamental Oscillators: Voltage Controlled Oscillators, Crystal, Dielectric and Coaxial Resonator Oscillators. Frequencies from 50 MHz to 26 GHz.

Frequency Converter Assemblies: Soft-board and ceramic substrates and topologies (microstrip, stripline, suspended substrate). High performance and low cost.

Ferrite Based Components: Isolators and circulators, miniature, broadband drop-in units, low to high power.

Mixer/Products 0.5 MHz. to 26.5 GHz: Double balanced and triple balanced mixers with RF/LO. Frequencies from 0.5 MHz to 26.5 GHz.

Control Components: Power dividers, directional couplers, hybrids, modulators, phase shifters and other control devices.

Detectors, Limiters and Comb Generators: Detectors, limiters and comb generators offering broad frequency ranges and small packages.

Active Signal Detection Products: Log Amps and Detector Log Video Amplifiers (DLVA). Small packages, multi-octave bandwidths, fast rise and fall times and advanced CW Immune capabilities.

Beamformers: Developed to specific customer requirements for use in phased array systems. UHF to MM wave.

Signal Routing and Control Systems: Switch matrices covering audio through microwave are available from a simple 1 input/8 output to complex 128 in/out architectures. These incorporate full fan-out, non-blocking configurations.



Multi-Mix® Microtechnology



2 - 18 GHz. RF Source



6 - 18 GHz. RF High-Speed Amplitude-Phase Modulator



Components



Beamformers



Switch Matrices

Crane Aerospace & Electronics – Microwave Solutions www.cranae.com/mw

ELDEC • Hydro-Aire • Interpoint • Keltec • Lear Romec • Merrimac • P.L. Porter • Signal Technology

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