Providing Manufacturing Expertise for the Most Complex Electronic Assemblies

IEC Electronics delivers vertical manufacturing solutions supported by advanced capabilities to solve the toughest challenges in the manufacturing of life-saving and mission critical products.

With manufacturing capabilities such as PCBA, metals, and cables, combined with engineering expertise for design and assembly optimization, we control the supply chain to minimize the risk to yours.

Minimizing Supply Chain Risk

Collapsing Your Supply Chain.

In-house vertical manufacturing and assembly of:
- Electronics Manufacturing (PCBA)
- Interconnect Solutions
- Precision Metalworking

Ensures continuity of production by controlling lead times, quality, and cost.

Solving Challenges

Advanced Capabilities that Mitigate Risk.

On-site state-of-the-art analytical laboratories provide:
- Root-Cause Failure Analysis
- Inspection & Authenticity Testing
- Reliability & Qualification Services

Engineering expertise that provides design for manufacturing analysis, functional test design, and manufacturing process optimization.

Delivering Solutions

Full Service and Engagement.

Our vertical solutions, manufacturing expertise, and advanced capabilities allow us to provide:
- Full system assembly and custom configured products
- Accelerated time-to-market timelines
- Logistics and direct order to your end customer

Serving the Medical, Industrial, Aerospace & Defense Industries

Product Examples

Medical • Infusion pumps • Resuscitation systems
  • Imaging systems • Diagnostic equipment
Aerospace & Defense • Encrypted satellite communication
  • Weapons systems • Flight controls
Industrial • Ruggedized industrial controls
  • Remote inspection equipment • Heavy duty transport

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Full System Assembly
- Vertical manufacturing of PCBA, metals, and interconnect solutions for complex electronic mechanical and electro-mechanical assemblies
- Full product serialization and traceability down to the component level
- Reliability testing and custom software/hardware system configuration
- Logistics management and direct order fulfillment to the end customer
- Upgrade, depot, and warranty repair services

Design & Test Development
- Component selection and lifecycle management, including product modifications for obsolescence
- Electrical design services including schematic capture and layout design
- Product development for manufacturing cost reduction and feature enhancements
- Automatic optical inspection (AOI), 3DX-Ray (AXI-CT), Flying Probe
- Functional testing for digital, analog, JTAG compliant devices, and RF from LF to SHF bands
- Custom production ready functional test design including hardware, software, firmware

Analysis & Testing Lab
- ISO 17025 certified and Defense Logistics Agency QTSL suitable lab providing services for components, PCBA, cables, and full system assemblies
- Reliability and Qualification Testing
  - Up-screening
  - Destructive Physical Analysis (DPA)
  - Environmental/Accelerated Life Testing
- Inspection and Authenticity Testing
  - Counterfeit Component Detection
  - Lot Acceptance
  - Construction Analysis

Electronics Manufacturing
- FDA registered and IQ/OQ/PQ support for medical products
- Leaded or lead-free soldering for IPC-A-610 or J-STD-001 Class 3
- In-house conformal coating: acrylic, silicone, and polyurethane
- Automated Functional Testing: boundary scan, RF, HASS, vibration, and dynamic ESS testing
- Product Acceleration Center dedicated for NPI including quick turn prototypes or pre-production qualifications

Interconnect Solutions
- Dedicated engineering staff to custom design and fabricate molded cable assemblies
- 3D Printer technology for quick turn prototype over molded cables
- Custom EMI/RFI Shielding back shells terminated with over mold boots and strain reliefs
- Over molded cables with custom material compounding
- RF/VSWR testing to super high frequency (SHF)
- Harnessing for complex assemblies with multiple breakouts and junction points

Precision Metalworking
- Solid works 3D modeling and Finite Element Analysis (FEA)
- CNC machining, sheet metal fabrication, laser cutting, welding (GMAW, GTAW, robotic), and resistance welding
- Clean room environment for FOD control
- In-house design engineering services such as chassis and enclosure design
- Plating, painting, graining, and silk screening finishing services

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