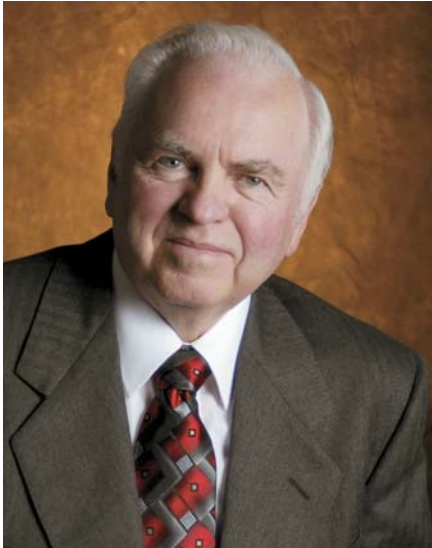




SenDEC[®]
CORPORATION

concept to completion



Kenton W. Fiske
President/CEO

Services at a Glance

Design for Manufacturability,
Assembly & Test (DFM/DFA/DFT)



PCB Layout



Rapid Prototyping



New Product Introduction



PCB & Electromechanical Assembly



Turnkey Box Build Assembly



Test Engineering



PCB Rework

The SenDEC CEM Group provides contract electronics manufacturing and design engineering services for the commercial/ industrial, energy, medical, military and telecommunication markets. Our clients include startups, mid-size companies and Fortune 500 corporations worldwide.

SenDEC offers a unique combination of electronics manufacturing experience (over 35 years), engineering expertise (8 patents) and a well deserved reputation for quality and customer service. Our customers appreciate the difference. You will, too.

What Service Means to Us ... and to Our Customers

At SenDEC, customer service is everything. We strive to make sure you're completely satisfied with the quality of our work, our responsiveness and our ability to meet your requirements. Our goal is to be your long-term manufacturing partner.

The Guiding Principle of Everything We Do

Our customers quickly discover that SenDEC customer service is not a department or a series of procedures. It's an attitude and a commitment to excellence that extends throughout our organization and which we apply to every phase of a project, from initial consultation to final delivery.

Our People Make the Difference

Our customer service goes beyond high quality and on-time delivery; it's the way we work with you: person to person, with a genuine desire to exceed your expectations. We never stop looking for ways to add value to your operation and improve your time to market.

Real Service, Real Benefits

Despite the high tech nature of our work and the industries we serve, we still believe that people make the difference. Our customer service attitude and experience is a SenDEC "value add" that can bring you real benefits in terms of production efficiency and product quality ... not to mention the peace of mind that comes from working with a team committed to your success.



2007 Winner

manufacturing
TODAY

2007 Manufacturer of the Year



ROCHESTER
BUSINESS
ETHICS
AWARD



ISO 9001:2008 Certified
ITAR Registered
Qualified Small Business
Cage Code 3UMX0

The SenDEC Advantage

We invite you to evaluate the SenDEC Advantage ... a professional manufacturing partner offering superior customer service and uncompromising quality:

- Over 35 years of PCB Design, Prototype and Production expertise
- Modern facility with a continuous investment in our people, processes and technology
- National and regional recognition for service excellence, growth and ethics
- DFM/DFA/DFT expertise
- New Product Introduction (NPI) concept to completion support
- Project transition expertise
- RoHS sourcing and processing expertise
- BGA and fine pitch component processing expertise
- Supply chain management expertise
- Dedicated Program Management

A Commitment To Excellence

SenDEC Corporation is dedicated to providing technical excellence and superior customer service in both contract electronics manufacturing and design engineering services. Our goal is to bring your project to market with superior quality, on budget and in the shortest time frame possible.

SENDEC'S CONTRACT ELECTRONICS MANUFACTURING COMMITMENT

As your professional manufacturing partner,
SenDEC will be a trusted extension of your organization.

As a customer, you will reap the benefits of our state-of-the-art capabilities, experience and expertise—without the expenditures for inventory, equipment or talent.

We will tightly adhere to our quality assurance policies while safeguarding your proprietary information.

Our responsiveness to your needs will help you be more competitive and to react quickly in a rapidly changing global marketplace.

We are committed to your satisfaction ... to providing you with on-time delivery and consistent quality in every phase of production ... to becoming your trusted business partner.



SenDEC offers a wide range of services for PCB prototyping and production assembly, final product assembly (box build) and turnkey production.

Whether your project is simple or complex, and no matter what quantity you need, you get the same quality, quick time-to-market service that has made SenDEC one of the fastest growing companies in the nation.

PCB Manufacturing Capabilities at a Glance

- High Speed SMT, single and double sided
- Fine pitch 0201 placement
- BGA/Micro BGA (Ball Grid Array)
- Leaded and RoHS compliant assemblies
- Mixed technologies (Through-hole and SMT)
- PCB assembly
- Electromechanical assembly
- Final product assembly (box build)
- Project Management
- Turnkey, consigned or mixed material management

Our manufacturing process includes initial design and in-process quality inspections throughout. Your project is produced at the lowest total cost without compromising on quality.





Comprehensive Capabilities

SenDEC offers a variety of manufacturing capabilities to meet your special requirements or project applications.

MATERIALS

- 100% Turnkey capable, if desired
- Full RoHS sourcing
- Experienced commodity buyers
- On-site Avnet and Arrow Electronics Material depots and support staff
- Dock to stock inventory management
- Inventory bonding

DESIGN FOR MANUFACTURABILITY (DFM)/

DESIGN FOR ASSEMBLY (DFA)/DESIGN FOR TEST (DFT)

Our engineers can provide a thorough DFM/DFA/DFT evaluation and recommend design modifications that will deliver the performance you require at the lowest possible production cost.

AQUEOUS CLEANING

When organic flux is used in PCB manufacturing, aqueous cleaning is necessary to remove the acidic residues. SenDEC can perform quick and thorough aqueous cleaning of your boards of any size with minimal impact on production throughput rate.

Our state-of-the-art cleaning equipment includes:

- Electrovert Aquastorm 200 In-line Aqueous Cleaners
- Trek Icom 5000 Cleanliness Tester

AUTOMATIC OPTICAL INSPECTION (AOI)

SenDEC utilizes AOI stations within each production line to inspect all components optically for presence/absence, polarity, value, misalignment, insufficient solder and solder bridging.

TESTING

SenDEC offers in-circuit and functional testing of electronic assemblies. Our Test Engineering department is staffed by electrical engineers and technicians with years of experience—building test equipment and developing effective test methodologies. We make sure that your finished product will meet or exceed your quality and performance requirements.

X-RAY INSPECTION

SenDEC uses state-of-the-art X-ray systems to provide the highest level of quality inspection for process and board analysis. It allows our engineers to identify and solve problems that would be impossible to find through visual inspection alone.

CONFORMAL COATING

Conformal coating can protect your final assembly from environmental conditions such as moisture, dust and extreme heat or cold that may cause damage to the board. SenDEC can accurately encapsulate all or part of assembly using polyurethane or acrylic based materials to conform to IPC and military specifications.



SenDEC's NPI/Prototype department operates as an autonomous work group within the company. This allows us to streamline the commercialization process and generate high-quality prototype and pilot build assemblies on a quick turn basis. SenDEC is ISO 9001:2008 certified and the NPI/Prototype department adheres to all ISO procedures and processes.

Immediate Feedback Improves Design

Our NPI/Prototype line operators understand the PCB production environment and are able to provide timely feedback regarding manufacturability and testability to your engineers. This valuable information can be useful to guide design changes that can lower production costs, improve quality and enhance performance.

SenDEC's NPI/Prototype department utilizes a wide variety of manual, semi-automated and automated tools and equipment to aid in the rapid and accurate assembly of product prototypes and initial pilot builds.

The people in our NPI/Prototype department are highly skilled and dedicated to producing high quality assemblies ... fast.

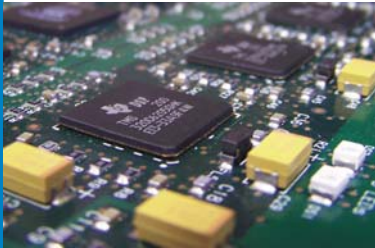
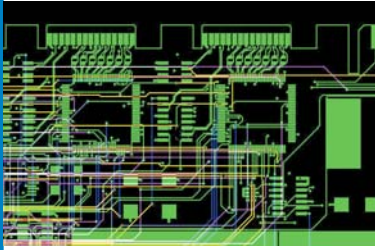
NPI/Prototype Capabilities at a Glance

- BOM scrubbing and Documentation Review
- Quick turn for rapid time to market
- SMT and through-hole capabilities
- Dedicated SMT line, AOI and X-ray system
- BGA/micro-BGA and fine pitch placement
- Consigned, turnkey or mixed material management
- Complex PCB Assemblies, subassemblies or box builds
- Close collaboration between your engineers and our NPI/Prototype team
- Critical feedback for future production builds
- Emergency rework including BGA/micro-BGA

Faster Time To Market

Rapid turnaround with design feedback means full production can begin sooner and run smoother. While your competition is waiting for their first prototype, you can be on your way to market with your finished product.





Design Engineering Services

For over 35 years SenDEC engineers have been designing products that perform well and can be manufactured cost-effectively. They can help you deliver a higher quality product to your customers at a lower cost.

Existing designs – we can help you optimize an existing design for more efficient manufacturing, assembly and test.

New designs – our engineers can work with you to build your product from concept to completion, incorporating DFM/DFA/DFT principles throughout. When necessary, SenDEC can also leverage strategic partnerships with qualified design engineering firms to provide the most skilled resources to support your project and extend our capacity and reach across the markets we serve.

PCB layouts – SenDEC's engineers are equipped with the complete suite of Cadence® Allegro® layout tools and can also support PADS® and Altium toolsets. Our engineers are also proficient in the NI LabVIEW graphical programming environment.

Better Quality at Lower Cost

Our engineers can evaluate your designs and recommend ways to:

Reduce material costs – SenDEC maintains a large inventory of components that can be substituted for brand name parts. You benefit from limited exposure and lower prices, especially on hard-to-find and long lead-time components.

Improve product durability and reliability – PCB substrate, configuration, assembly processes and coatings all have an impact on long term performance and reliability. Our engineers can suggest design modifications to improve the durability and quality of your product – without adding cost.

A Wealth of Experience

SenDEC engineers have designed many products for our customers that offer superior price, value and performance for the end users, including:

- Digital and analog devices
- Microprocessor systems designs (hardware and software)
- Computer systems interfaces
- Computer peripherals
- PCB layouts up to 32 layers (Cadence® Allegro®)
- Servo controls
- Power supplies
- Display devices
- Custom packaging
- In-circuit test fixtures
- Fully automated functional test systems



At SenDEC, quality processes are built into every phase of production. They begin with your order and continue until your product ships. For over 35 years we've been providing contract manufacturing and design engineering services, we've developed quality systems and tools – and a total quality mind-set – that has earned us the respect and repeat business of our most discriminating customers.

Quality Systems at a Glance

QUALITY PROCESSES

- ISO 9001:2008 Certified
- IPC-A-610 Class II & III Workmanship Certified
- J-STD-01 Certified
- ESD controlled environment
- Temp & humidity controls
- Documentation control
- Process auditing
- Calibration controls
- SQA - Supplier Quality Audit
- Incoming inspection
- Bar code tracking
- AOI and X-ray inspection
- In-circuit and functional test
- Test and QA stamps
- First piece inspection
- In-process verifications

QUALITY TOOLS

- Mirtec automatic optical inspection
- X-TEK and Photon Dynamics X-ray inspection
- ECD Super M.O.L.E. Gold Temperature Profiler
- Vision Engineering Lynx inspection system with camera
- NOVX Series 5000 Electrometer - ESD discharge monitor
- Thermal hygrometer
- CAM 350 Gerber Viewer
- Trek Icom 5000 cleanliness tester
- Height gauge and surface plate
- Digital Vernier calipers
- ASC Vision Master - solder paste inspection tool
- BGA-100 Inspection scope



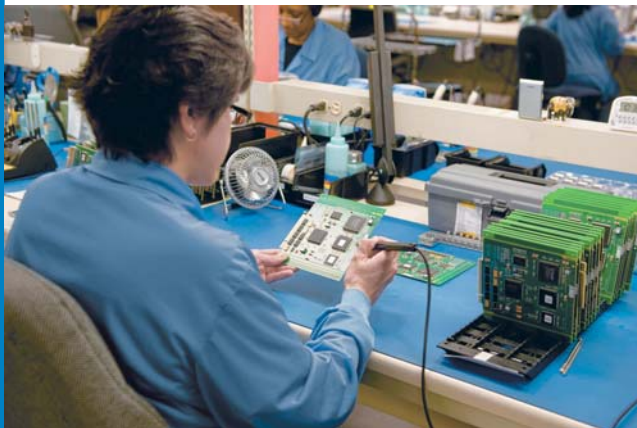
What Our Quality Commitment Means to You

When you trust us to manufacture your product, we repay that trust with the highest levels of quality and attention to detail. Our strict adherence to quality systems assures you of:

Quality design – We offer a DFM/DFA/DFT evaluation and testability review of your design prior to manufacture. Our design engineers can help you find ways to reduce manufacturing cost and improve performance and reliability.

Quality materials – We verify that all incoming manufacturing materials are free of defects and conform to specifications. Our sampling plans are based on ANSI/ASQC standards.

Quality assembly – Our quality and process engineers perform a first piece audit to evaluate workmanship and conformance to specifications. Subsequent inspections are performed at key process breaks throughout the production run.



Quality people – Every quality system depends on the people who implement it. Our entire team is highly skilled and motivated, quality conscious and customer focused. They make quality happen.

The Return on Your Quality Investment

A quality design, manufactured to high quality standards, offers you both near-term and long-term benefits.

Designs optimized for manufacturing and assembly are less expensive to produce, allowing you to market your product at a more competitive price and/or generate higher margins.

Well-designed and well-built products perform better and last longer, which helps boost customer loyalty and repeat business while minimizing in-warranty repair costs.

The result – the return on your quality investment – is a long-term competitive advantage that can help you expand your market share and profitability.



This checklist will help both of us focus on the project at hand. Please prepare these items before requesting a quote.

- Assembly Drawing(s)** and related **Workmanship Standards** required.
- Bill of Materials (BOM)** with manufacturer names and their part numbers (Microsoft Excel format desired). If a manufacturer part number is not available on the parts list, please provide component specification sheets.
- Printed Circuit Board Fabrication Drawing and Gerber Files** (if SenDEC needs to purchase or if testing is required).
- Gerber Files including x-y placement data** from centroids of components (SMT in metric).
- CAD Files.**
- Special Tooling** requirements (if any needs to be acquired, developed, or will be consigned).
- Engineering Schematic** and any **Test Procedure/Specification** (if testing is required).
- Total Quantity** and estimated individual **Release Quantity.**
- Forecasting** (if available).

Submit a request online at www.sendec-cem.com