



Simplifying the Lives of the Engineers We Serve

Designing and Building Custom Test Systems for More Than 50 Years

How We Work With You

WE GET IT

We understand that the manufacturing engineer or the test engineer is often the last to be notified, and the first to be blamed. We've been where you are, sometimes spending the night on the factory floor with the spotlight on you alone. Our goal is to make the engineer's life easier through quality, responsiveness, flexibility and attention to detail. We utilize our experiences, our quality processes, and our best-in-class partners to deliver and install solutions to fill your needs.

We've been in your shoes. Ball Systems was founded more than 50 years ago on the premise of simplifying the lives of the test engineering customers we serve. Our solutions and processes have been refined over decades to simplify the job of the test engineer while improving test results, costs, efficiency and lead time.

INNOVATIVE SOLUTIONS

Ball Systems' seasoned staff of deep technical experts has been assembled with the purpose of delivering well-designed, innovative solutions for our customers' most difficult problems.

DEPENDABLE SUPPORT

We're experienced in providing on-site as well as web and phone-based support for customer solutions. Ball Systems backs its systems with full document creation, operation and maintenance training, along with support and service. Our diverse technical expertise, customer service philosophy, and vendor relationships provide a foundation for premium quality, cost efficiency, and responsiveness.



Technical Expertise

ELECTRICAL DESIGN

- System and architecture design
- Electrical requirements definition and validation
- Electronic circuit design
- FPGA, CPLD, DSP, and microcontroller design
- PCB design and layout (analog, digital, mixed-signal, high speed, power, etc.)
- Electronic testing and design verification
- Communication busses, high speed busses, signal processing, signal conditioning, analog design, power supply design, inductors, etc.

SOFTWARE DESIGN

- NI's full programming suite with certified architects (CLAs) and developers (CLDs)
- Languages including assembly, C, C++, C#, Visual Basic (VB), Java, Python, VHDL, and programmable logic
- Driver development including RS232, CAN, PCI, PCIe, I2C, SPI, flash, etc.
- Communications protocols and sub-systems
- Real-time control and monitoring
- Embedded programming including FPGA, CPLD, DSP, PIC, microcontroller, etc.
- Graphical user interfaces (GUI) and human to machine interfaces (HMI)
- PLCs and ladder logic programming



MECHANICAL DESIGN

- System and architecture design
- Mechanical requirements
- 3D CAD design
- 3D part modeling
- Part and assembly documentation
- Mechanical prototyping and production
- Enclosure design
- Material selection
- Test fixture design
- Failure Modes and Effects Analysis (FMEA)
- Strain analysis
- Ergonomics and industrial design

SYSTEMS INTEGRATION

- Turnkey multidisciplinary architecture and system design
- Requirements documentation and management
- Product development
- Prototyping and early run production
- Feasibility studies



Our Services

Ball Systems designs, develops, and delivers custom test systems and produces comprehensive build-to-print systems for companies creating or manufacturing critical electronic or electro-mechanical components.

TEST SYSTEMS

We specialize in full turnkey automated test systems and software solutions that help customers rapidly launch test. Ball Systems is a leading provider of comprehensive, high-quality, and timely custom test systems to customers worldwide.

BUILD-TO-PRINT

Ball Systems produces build-to-print systems and assemblies through robust production processes and expert technicians working to extend your own team in a way that flexibly meets your unique needs.

CUSTOM ENGINEERING

We have an experienced technical staff of electrical, mechanical and software engineers who can assist with your most challenging design, production, software development and test challenges.



Industries We Serve

For more than 50 years, Ball Systems has been designing, building, installing and supporting innovative test, software and engineering solutions for customers worldwide across a wide range of industries.

AUTOMOTIVE

We have a rich history in the automotive industry providing custom test solutions and build-to-print services for vehicle electronic and electromechanical subsystems. Our expertise includes Engine Control Module (ECM) testing, airbag controller and sensor test systems, Safety Deployment Module (SDM) testing, alternator, starter and stator test systems, and automotive radio and entertainment testing, to name a few.

AEROSPACE & DEFENSE

In the aerospace and defense industries, we provide custom test solutions, Ground Support Equipment (GSE), and build-to-print services. These services also include projects such as avionics system testing, data system design and manufacturing and circuit board manufacturing and more.

CONSUMER APPLIANCE

Ball Systems serves the consumer appliance industry by providing custom test solutions and build-to-print services for consumer appliance final product and subsystems testing. Our considerable experience lies in the following areas: manufacturing "test loop" and test cell design and assembly, portable field technician test systems, environmental validation chamber design control and data collection, factory line control and automation systems and much more.



Who We Are

Ball Systems is a full-service test and automation engineering company offering a wide variety of solutions, including custom test systems and engineering services, to a broad range of industries. We provide talented specialists with applied experience and an excellent command of the tools of the trade. Above all, we partner with you to engineer answers.



COMMUNICATION

We communicate proactively and transparently so you know what we know. We understand that this is ultimately your solution and we want you to rest easy knowing where your project stands.

EXCELLENCE

We are faithful in the little things, because details matter. Our experience becomes your IP – knowledge and technology that you own forever.

RESPECT

We respect our customers, our team, ourselves, our vendors, and our community – hoping to leave each engagement far better than it started.

SMART

We discover, analyze, and overcome to create the best test solutions possible – our experience gives us the foresight to create solutions that succeed and last.

FLEXIBLE

We understand that in our industry, change is a constant. We accommodate our customers' ever-changing needs with flexibility in process, specifications, and technology.



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