LCR™

EMBEDDED SYSTEMS, INC.

Helping our customers achieve their mission.

Fielded & Proven
Chassis, Backplanes, and Integrated Systems for the Military, Commercial, and Rugged Industrial Markets

**AdvancedTCA • VPX • VME
CompactPCI • Custom Form Factors
Full Design, Manufacturing, Integration Capabilities**

Engineering Design

Using SolidWorks, Kubotek KeyCreator, AutoCAD, MentorGraphics PADS, Cadence OrCAD Capture, and Visio, LCR Embedded's engineering design team will create your design in 3-D and perform structural and thermal simulations to gauge its performance. Electrical engineers will create the PCB schematics and artwork.

A variety of detailed special reports are generated throughout this process, ensuring compliance with your stated specifications.

Program Management

Our project and program management ensures that risks and dependencies are identified, milestones are set, obsolescence issues and any likely schedule impacts are anticipated, and needed metrics are taken so that the best possible product is delivered on time and within agreed-upon cost estimates.

All of this information is shared with the customer in periodic calls and updates, enabling timely response to any obstacles to project completion.

System Integration

The growing complexity of the challenges that our customers must meet requires knowledge of systems integration, and this knowledge must span a wide variety of components and the ways in which they interact.

With our Mississippi branch location devoted to systems integration, we offer deep understanding of hardware, software, communication protocols, firmware, and environmental requirements, as well as the challenges that the finished system will address.

Manufacture and Testing

We also provide low-volume, high-mix assembly manufacturing and testing capabilities as well as system integration. Assembly techniques include J-standard Class 3 soldering, and high-end cable harness and electromechanical assembly. Test capabilities include full backplane testing and electrical and full functional testing.

Over the last decade, we have also developed a world-class network of suppliers that enable us to handle special processes.

Our World-Class Capabilities Are Yours ...

Whether you have a back-of-the-envelope design idea and seek collaborative development with our engineering team, or you provide us with a complete set of build specifications, LCR Embedded Systems will turn your product into reality.

Maximizing Performance and Reliability

Located in Norristown, PA and Jackson, MS, our Engineering Design and Manufacturing teams coordinate closely in our 30,000 square foot production facility to offer:

- Prototype, Limited, and Full Production runs
- Lean manufacturing lines
- CNC machining and fabrication
- Automatic electrical functional testing (backplane and cabling)
- Full system-level functional testing
- J-STD Class 3 White Room for assembly
- J-STD Class 3 certified soldering
- Automatic and semi-automatic wire-wrapping

Hard at Work in the Harshest Environments

Whether it's the US Navy's P-8A Poseidon and Aegis Combat System or the US Army's Terminal High Altitude Area Defense anti-ballistic missile system, LCR Embedded Systems rugged and lab-grade products are hard at work around the world in critical programs where failure is not an option. Certifications include:

- ISO 9001:2008
- AS9100 C
- Calibration certified to ANSI Z450
- First article inspection to AS9102
- FOD program
- ESD to ANSI 20.20

LCR™ EMBEDDED SYSTEMS, INC.

A Full Suite of Mission-Ready Customizable Solutions

Integrated Systems: COTS-based, Easily Modified

We offer compute- and switched-based platforms ranging from small form factors to large, fully-integrated bladed solutions. Our COTS-based systems are based on standard form factors, but can be customized to meet your specific requirements.

- AdvancedTCA, VPX, VME, CompactPCI, COM-Express and more
- Can be populated with reseller-partner or customer-specified blades
- Convection, conduction, or liquid-cooled
- Airborne, Shipboard, or Ground-Mobile Rugged Systems

A Complete Chassis and Backplane Ecosystem

Our in-house design and manufacturing provide single-source reliability for our chassis and backplane products and have fostered the development of a highly reliable ecosystem that speeds production and avoids manufacturing issues while extending product life. While the standard form factors are our main focus, our expertise extends equally to standards-based and fully customized solutions in addition to build-to-print production.

- Fully integrated, wired and tested
- Rackmount, ATR machined, brazed
- Power, thermal, and finite element analysis
- Any level of rugged design
- System management

- Automated functional testing
- MIL-PRF-31032, IPC-6011/6012
- Multilayer up to 32 layers

With our strong drive for transparency and collaboration, you will feel as if you are working with colleagues, all of whom are as invested in the success of your mission as you are.

Support for Legacy Technology

Upgrading to a new technology can come with hidden costs above and beyond those associated with the technology itself, such as re-testing and re-certification of a given hardware or software solution. In cases like this, even significant savings from a hardware redesign might not be enough to offset the costs of an upgrade, and legacy hardware such as wire-wrap must be maintained.

LCR Embedded offers a full suite of future-facing design, engineering, and manufacturing capabilities to our customers. Nevertheless, we remain committed to supporting our customers' legacy systems as well, as shown by our recent acquisition of two new state-of-the-art computerized wire-wrap machines.

Flex and Rigid/Flex Assemblies, Power Distribution Units and Subsystems

As part of our fully developed solution ecosystem, we offer power management and subsystems along with flexible connectivity designed to meet our customers' needs.

- MIL-P-50884, IPC-6013
- MIL-STD-1399/704/810/461 power distribution units
- Power and thermal monitoring
- Excellent integration with our chassis and backplane solutions
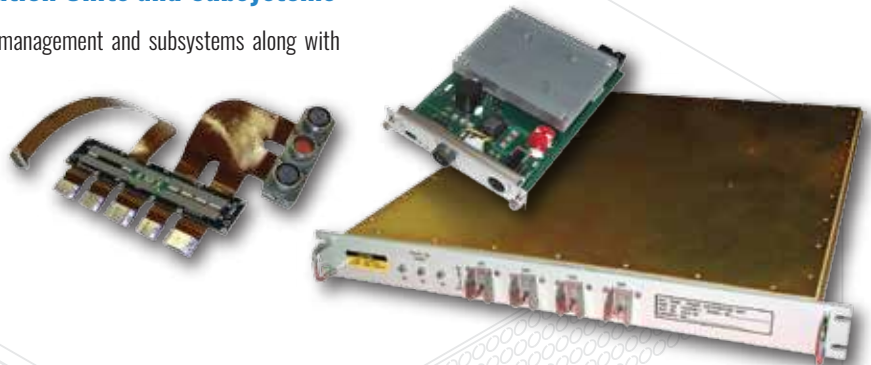
Value-Added Built-to-Print Capabilities

LCR Embedded Systems offers value-added support to everything we build including design modifications, the creation of tooling and test fixtures, system upgrades, and projects involving legacy technology.

Add in years of experience and a dedicated, skilled manufacturing group, and you have a company that can assemble and test your hardware to meet your specifications precisely.

- Complete turnkey assembly, ready for higher-level installation
- Design for manufacturing and supply chain optimization
- Inspection at all levels of assembly, automated testing
- Work to customer drawing or create all needed documentation
- Obsolescence management and mitigation
- Prototype development, mid-level volume, and production runs
- Full engineering staff to support projects and resolve issues
- Incorporate changes during assembly
- Development of long-term partnerships based on excellent customer service
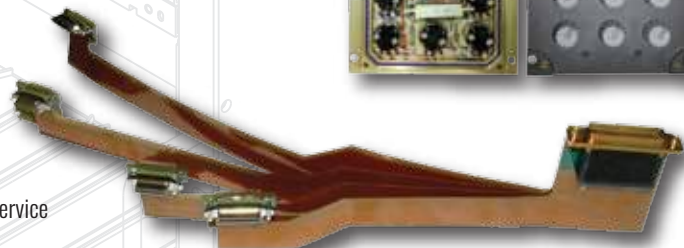
Committed to Continuous Improvement

Our customers must operate in a world of ever-increasing complexity and budget pressures, and LCR Embedded Systems is committed to a sustained, structured, company-wide Continuous Improvement Initiative as a means of ensuring that our design, management, integration, and manufacturing capabilities continue to stay ahead of customer requirements. Our Continuous Improvement Initiative is team-based, driven by our Leadership Team, Steering Committee, and the individual project-based Project Teams. All CI Projects are documented and recorded in compliance with AS9100 C requirements, and the Project Teams follow the LEAN process improvement principles.

When you choose LCR Embedded Systems, you're choosing a sustained alliance with industry-leading experts who are committed to helping you achieve your mission.