

Manufacturing Capabilities Review

CSI gives you superior capabilities in one resource for all your prototyping and production needs, whether your boards are produced in the U.S. or CSI's China manufacturing facility.

- ✓ *Superior technical and manufacturing engineering knowledge*
- ✓ *Superior manufacturing capabilities*
- ✓ *Superior equipment options*

Fast-Facts about CSI and CCSI

- Full-service contract electronics manufacturer, U.S. and China
- High-mix, mid-volume production expertise
- Privately-held corporation since 1972
- IPC-A-610 Class 2 workmanship standards
- ISO certified since 1996 (U.S.); ISO certified since 2007 (China)
- Dedicated NPI and Prototype group
- Turnkey Supply Chain Management
- Lean manufacturing philosophy
- Automated surface mount and through-hole capabilities
- Complete test development services
- Comprehensive quality data tracking and analysis
- Vendor managed inventory programs
- Proactive cost reduction practices



CSI's assembly services give customers the flexibility to outsource prototype only; board production; and/or complete box build of a product.

Technical Capabilities

- Double-sided SMT and through-hole production:
 - Complex assemblies (e.g., 20-layer, 6000 component count, blind, buried via/micro-via)
 - Selective solder
 - Lead-free
- High speed placement
- BGA and Micro-BGA capabilities
 - Placed 1200I/O, 1.5" x 1.5" BGAs
 - CSP to .4 mm pitch; .2 mm ball
 - X-ray verification on BGA and other leadless ICs
 - Endoscope analysis
 - Reballing
 - Repair
- Fine pitch SMT, QFP to 16 mil pitch
- Component range of 0402 to 2.2" square
- Passive SMT component electrical verification prior to placement
- Cyberoptics LSM (paste height)
- Part placement capabilities from cut tape
- SMT stencil design and procurement
 - Design rules for laser, step, electroform, lead-free, adhesive
- Optimized reflow profiling
- Connector and terminal press-fit capability
 - GBX to 300 I/O
 - 2 mm compact PCI
 - Custom, back-side tooling development
 - Bellcore connector lube
- Mechanical and box builds
- Flying probe and AOI
- ICT (HP/Agilent and GenRad)
- JTAG programming
- JTAG testing
- Design review for manufacturability of board gerber files
- Close relationship with PCB fabricators
- Digital image capture for problem resolution
- Creative problem resolution at run-time as required to keep product moving
- Large technical base of highly experienced engineers

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