

U.S. CIRCUIT, INC.

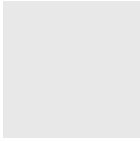
U.S. CIRCUIT

MANUFACTURER OF PRINTED CIRCUIT BOARDS >>

COMMERCIAL
MILITARY
MEDICAL
BAREBOARD



U.S. CIRCUIT



MISSION



U.S. Circuit, Inc. will continually strive to be a leader in the printed circuit board manufacturing industry by providing the highest quality products and the best customer service possible. We will succeed by establishing long-term partnerships with our customers, vendors, and employees.

VISION

To be recognized as an industry leader delivering quality products on time, U.S. Circuit, Inc. will steadily grow and prosper.



U.S. Circuit's customer service department is committed to providing customers with accurate and timely communication in a pleasant and professional manner.

CUSTOMER SERVICE



SALES AND ENGINEERING DEPARTMENT

Barcode Interface
 Computerized Production Planning System
 Computerized Sales Management System
 Si 6000b Controlled Impedance Design System

CAM DEPARTMENT

3 Orbotech Genesis 2000 Cam Stations and 3 CAM350 Stations
 EIE RP362-DL Auto Loader Raster Photoplotter
 Glunz & Jensen 28" Film Processor

PROGRAMMING, DRILLING & FABRICATION DEPTS.

Ceco Hole Checker 8 Auto Optical Inspection
 Multiline XRT System 7000 X-Ray Post Lamination
 Tooling and Inspection
 1 Excellon Concept 129 with built-in x-ray camera (180k RPM)
 1 Excellon Concept 689 (180k RPM)
 3 Excellon Mark VII Driller
 Excellon Mark VI Driller/Router
 Excellon Ex 200 Driller/Router
 2 Excellon Mark V Driller/Router
 Laser Micrometer
 Accuscore Scoring Machine
 Automatic Stacking Machine
 Glenn Brook Real Time X-Ray
 DNC File Server
 Bevelers, Edgemate, Shear Machine
 Plasma Etchback (March Plasma Systems)

DRY FILM AND PHOTO DEPARTMENTS

Maskless Lithography Direct Digital Imaging System
 Multiline Semi-Automatic Artwork Punch
 Multiline Automatic Post-Etch Punching Of Inner Layers
 4 Multiline Glass Phototools
 2 ORC Exposure Unit 5kw
 2 Hakuto Mach 610i Auto Cut-Sheet Laminators
 3 Western Magnum Substrate Cleaner Line
 Chemcut 547 Semi-Automatic Developer

MULTI-LAYER LAMINATION DEPARTMENT

2 Fully Automated TMP Four Opening Vacuum Lamination Presses
 2 TMP Cold Presses
 Complete Multiline Registration System
 Multiline De-Pinner
 Ceco Overarm Digital Micrometer

PLATING DEPARTMENT

Semi-Automatic ENEPIG / ENIG Line
 Semi-Automatic Immersion Silver Line
 Potassium Permanganate De-Smear Line
 2 1500 Gallon Direct Impingement Copper Plating Line
 1 1500 Gallon Direct Impingement Tin Plating Line
 Semi-Automatic Electroless Copper Line
 Chemcut Semi-Automatic Conveyorized:

- DES Line (develop/cupric chloride etc & strip)
- Oxide Replacement Line
- Inner Layer Clean Line
- Film Stripping Line
- Ammonia Etching Machines
- Tin Stripper

 Double-Sided Scrubber/Deburrer Dryer Units
 Chemcut Pre-Clean and Flux Coater
 Quick Silver SM Hot Air Solder Coater Machine
 Marsco Semi-Automatic Post Cleaner System
 Kenetic Ionic Exchange Fully Automated Computerized Wastewater Treatment System

**U.S. CIRCUIT**

SOLDERMASK/SILKSCREEN DEPARTMENTS

DP-1500-2x Dual Sided LPI Soldermask Coater
Orbotech Inkjet Legend Printer
TC-150 Conveyorized Oven
Two Tc-120 Conveyorized Ovens
Olec Ap30-8000 Super Eight Exposing Unit
NuArc Flip Top 4k
Grieve Sc-350 82" X 64" X 32" Oven
Proheatco 82"X 64"X 42" Oven
Chemcut 547 Semi-Automatic Developer
3 24"X 30" Screen Tables
24" I.S. Pumice Scrubber Dryer
Western Magnum Substrate Clean Line
Complete Load and Unload System
Circuit Automation DP-VDM Vacuum System

QUALITY CONTROL DEPARTMENT

Polar Inst. CITS 500s Controlled Impedance
(TDR) Test System
3 atg A5 Flying Probe Test Systems (Netlist Test)
3 Camtek Orion 804 WR (AOI)
Camtek Orion 868 (AOI)
Buehler Cross-Section Laboratory
Microscope with Digital Capture
Accu-scope Microscope
CMI PTX Series for Measuring Copper Thickness
CMI 900 XRF for Coating Thickness Measurement
YSC Digital Video Microscope
Nikon Sm2-10 Zoom Microscope
MicroDerm 500 for Measuring Gold/Nickel Thickness
Complete Chemical Analysis Laboratory
CVS Unit Including Automatic Chemical Analysis
Buck Scientific AA (Atomic Absorption) Spectrophotometer
Thermo Spectronic 20d+ Spectrometer
Keaco Omega Meter 600R Iconograph



U.S. CIRCUIT

GENERAL INFORMATION

Founded In 1985
Product: Commercial & Military Printed Circuit Boards
40,000 (Custom built 2005)
37,500 Sq. Ft. Manufacturing Area & Quality Control
2,500 Sq. Ft. Administration Area
20 Miles North of San Diego

BOARD CRITERIA

Panel Size: 18" x 24" Max.
Overall Thickness: .005-.250" Max.
No. Of Layers: 24 Max.
Line Width/Spacing: .003" Min. (Inner Layer)
.003" Min. (Outer Layer)
Drilled Hole Size: .006" Min.
Inner Layer Core Thickness: .003" Min.
Copper Weight: .25-8 Oz. Max.

LEAD TIMES

Standard Delivery 3-4 Weeks
"Quick Turn" Upon Request

MATERIALS

FR-4 Laminate (RoHS Compliant)
High Temp FR4
Getek Laminate
Rogers Type 4003, 4350
Nelco N4000-13
Polyimide
Halogen Free

PROCESS CAPABILITIES

Maskless Lithography Direct Digital Imaging System
Artwork Generated via Gerber with EIE RP362-DL
Multiline Semi-Automatic Film Punch
Dryfilm Imaging
Post-Etch Punching Of Cad Generated Artwork And Layers
Automatic Optical Inspection (AOI) On Four Camtek Orion 804
Vacuum Assisted Lamination with Two Hot And Two Cold Presses
Drilling With Complete Electronic Programming Functions
Conveyorized AOI Inspection
Plasma Etch
Potassium Permanganate desmear System
Electroless cuposit Line
Direct Impingement Copper Plating Line
Tin Lead Hot-Air-Leveling (Hot-Air Solder Leveling—HASL) And
Lead-Free HASL
Electroless Gold, Immersion Gold, Hard and Soft Gold (Full Body),
ENEPIG Plating (Electroless Nickel, Electroless Palladium,
Immersion Gold)
Immersion Silver, Immersion Tin, OSP and Carbon Paste
Liquid Photoimageable Soldermask (LPI Mask)

QUALITY CONTROL

ITAR Registered since 2009
MIL-PRF-55110 G with Etchback Approved
for both GFN & GIN materials
ISO 9001:2008 Registered
IPC-A-600 Quality and Manufacturing Standard
UL Approval Rating 94v-0
Polar Instruments TDR for Impedance Control
3 atg A5 Flying Probe Test System (Netlist Test)
TrueChem Wet-Process Statistical Process Control (SPC)
Mil-C-45662 Equipment Calibration System
Microsection Preparation and Evaluation (Full Group 'A' Testing)



UNDERWRITERS LABORATORIES, INC.

Certificate of ISO 9001:2008 Registration

DEFENSE LOGISTICS AGENCY

MIL-PRF-55110G, Type 3 GI Polyimide Material

Certificate of Qualification

DEFENSE LOGISTICS AGENCY

MIL-PRF-55110G, Type 3 GFN FR-4 Material

Certificate Of Qualification

ITAR REGISTERED

Certificate of Registration

Please visit our website for the most recent certifications.

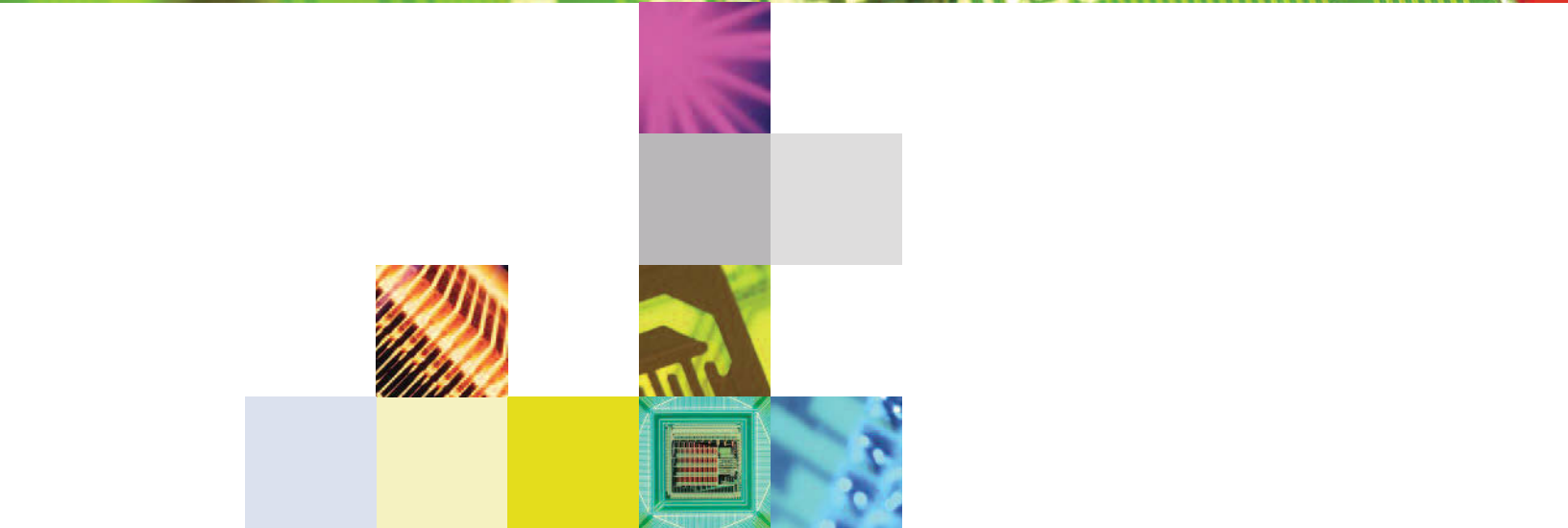
The collage displays several certification documents:

- ISO 9001:2008 Registration Certificate:** Issued by Underwriters Laboratories, Inc. to U.S. Circuit, Inc. for its Quality Management System. The certificate includes details such as the scope of certification, the date of registration (12/09/08), and the date of the next surveillance audit (03/09/09).
- ITAR Registration Certificate:** Issued by the Defense Logistics Agency (DLA) to U.S. Circuit, Inc. for the production of ITAR-controlled items. It includes a list of ITAR categories and a table of ITAR items.
- Quality Management System Certificate:** Issued by U.S. Circuit, Inc. for its Quality Management System. The certificate includes the company name, address, and the date of certification (03/09/08).
- UL Certification:** A logo for Underwriters Laboratories, Inc. indicating compliance with various safety standards.
- ANAB Certification:** A logo for the American National Accreditation Board, indicating compliance with ISO 9001:2008.
- I-Nec Certification:** A logo for the International Nuclear Energy Council, indicating compliance with various nuclear safety standards.





FOUNDED IN 1985, U.S. Circuit, Inc. is dedicated to the delivery of consistently superior product. From our spacious, state-of-the-art facilities, we are dedicated to excellence through innovation, technology and most importantly, service.





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