



Alpha Circuit | LLC

The Foundation Your Business is Built On!

A Message From the President



I have always been interested in technology. Technology has been part of my family and social circle my entire life. I knew a number of people in the industry here in the greater Chicago area and I talked to them about the possibilities of getting involved in a PCB shop.

After a successful career as a pharmacist, building and successfully selling my chain of drug stores, I decided to turn my attention to the electronics industry.

My vision to build a premier printed circuit board technology center in North America started to become a reality. I purchased the property at our current Schaumburg location, and got to work improving the building and investing into the people and equipment needed to bring my vision to life.

When in 2020 the chance to acquire Alpha Circuit came along, I jumped at the opportunity. Alpha Circuit has been around for over 40 years and the owners had decided to go in another direction.

There were a number of reasons for buying Alpha Circuit. First, I wanted to acquire a shop that already had quality certifications, a reputation for technology, great customer service, and a long standing customer base.

Our plan is to invest and grow Alpha Circuit into being one of the countries' cutting edge facilities. We want our company to be an actual beacon for the rest of the industry combining the old with the new and creating one of the best PCB companies in North America.

Prashant Patel
Owner & President

About Us

Alpha Circuit opened for business in 1981 as a single sided, double sided and four to six layer circuit board manufacturer. The company quickly outgrew the original location located in Elk Grove Village and moved to it's current Elmhurst location in 1984.

Alpha Circuit's reputation grew rapidly after being awarded large purchase contracts from Zenith Corporation who's signature tag line was "The Quality Goes In Before The Name Goes On".

Alpha Circuit continued it's reputation as a "quality first" manufacturing facility, along with growing it's technology offerings. The Elmhurst location produces up to twenty-eight layer multilayers, fine line circuitry, and copper base technology.



Fast Forward to 2019

With a vision to be a premier printed circuit board technology center, the Schaumburg, IL location was purchased and the vision started to become a reality.

Schaumburg has been designed from the ground up to offer the technology offerings for the 21st century. Every process has been well thought out to offer the highest quality technology in the industry.

The following presentation will show why we are excited to be part of a growing company, offering reliable products we can be proud of!

Quality Policy: Alpha Circuit is Quality, Improvement, Productivity, and Service

Quality: The primary objective at Alpha Circuit is the ongoing improvement of its Quality Management System. The commitment to that objective resulted in certification to ISO 9001 in 2007, IATF 16949 in 2013 and AS9100 in 2014. Our goal is to be certified MIL-PRF_31032 by quarter 3 of 2024.

Improvement: Our vision to become a technology leader requires us to not only make equipment improvements, but also requires us to recruit and train the best talent in the industry.

Productivity: Efficiency is necessary to survive in a global marketplace. Our QET Team (Quality Engineering Team) evaluates key areas on a weekly basis to insure our productivity goals are achieved.

Service: True service is an attitude, part of a company's culture. Service means; on time delivery, quick response times on quoting, order entry and confirmations and flexibility on delivery schedules.

Our Goal Is To Meet or Exceed Your Expectations!

Quality Certifications and Memberships

- ❖ ISO 9001:2015 International Standards Organization (2007)
- ❖ AS9100:D Aerospace (2014)
- ❖ IATF 16949:2016 Automotive (2013)
- ❖ IPC Association Connecting Electronics Industries
- ❖ UL Underwriters Laboratories
- ❖ NMSD Chicago Minority Supplier Development Council
- ❖ ITAR International Traffic in Arms Regulations
- ❖ AIAG Automotive Industry Action Group

Technology Capabilities

Elmhurst

- ❖ Layer count: 1 to 12+ layers
- ❖ Panel Size: 18 X 24
- ❖ Smallest Trace Width & Space: 3 mil trace / 3 mil space
- ❖ Material Thickness: 3 mil to 250 mil
- ❖ Materials: FR4 140tg, FR4 170Tg, Aluminum Core, Copper Core, Polyimide
- ❖ Smallest Mechanical Drilled Hole: 8 mil
- ❖ Hole Size Tolerance: +/- 0.002"
- ❖ Surface Finishes: HASL, LF HAL, Immersion Silver, Immersion Tin, ENIG, OSP

Schaumburg

- ❖ Layer Count: 4 to 30+ Layers
- ❖ Panel Size: 18 X 24 (Future 21 X 24)
- ❖ Smallest Trace Width & Space: 2 mil trace / 2 mil space
- ❖ Material Thickness: 3 mil to 250 mil
- ❖ Materials: FR4 170Tg, Polyimide, Panasonic (Megtron), Flex, Rigid Flex, Teflon
- ❖ Smallest Mechanical Drilled Hole: 6 mil, Laser Drill Size 0.004
- ❖ Hole Size Tolerance: +/- 0.002"
- ❖ Surface Finishes: HASL, LF HAL, Immersion Silver, Immersion Tin, ENIG, ENIPIG, (Hard Gold 2024)

Value-Add Overseas Sourcing

- ❖ We work directly with partners in China
- ❖ High Quality and On Time Delivery
- ❖ Pre-engineering performed at our Elmhurst facility
- ❖ DFM for Manufacturability
- ❖ Array & Panelization
- ❖ First Article inspection on all lots.
- ❖ Inventory up to four weeks domestically.

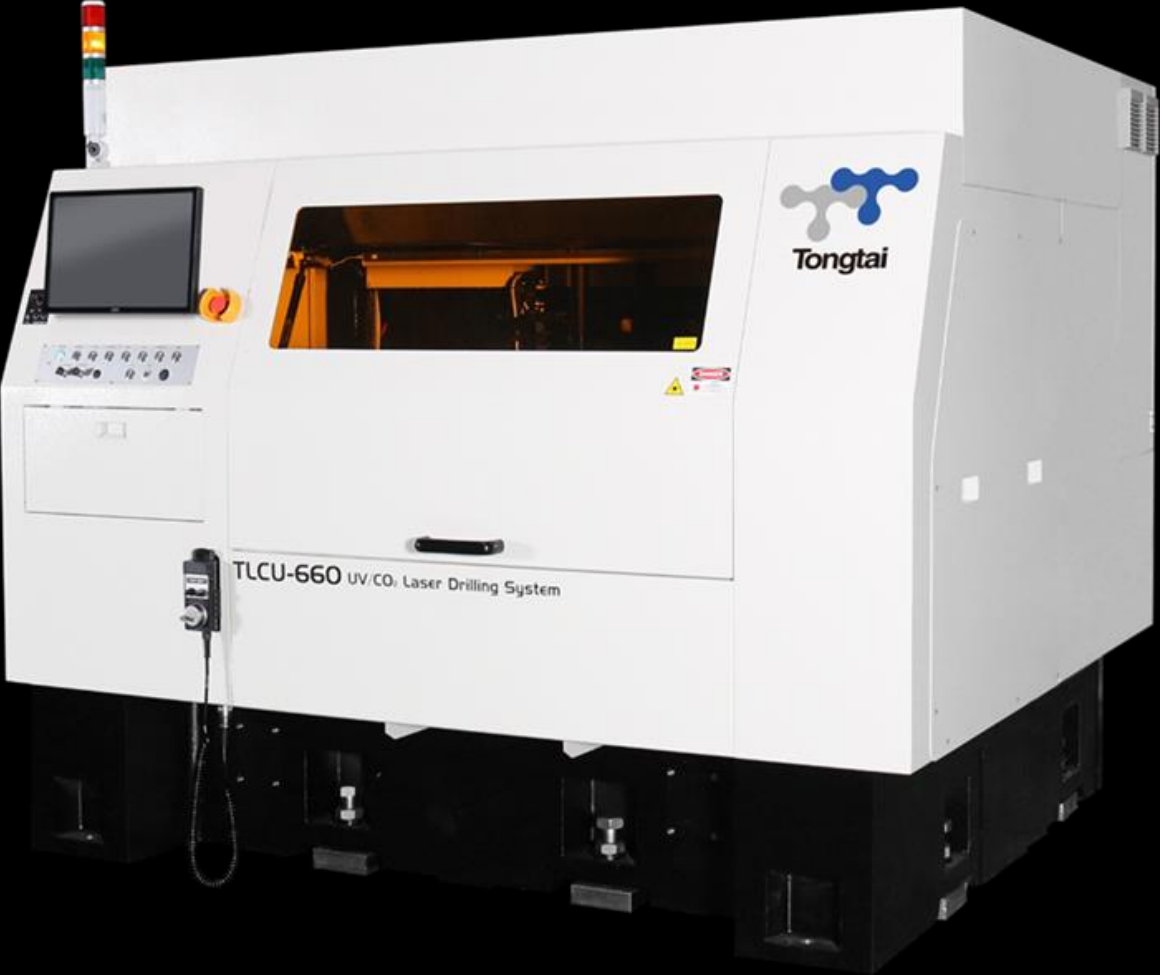
Our New “High Tech” Technology Center



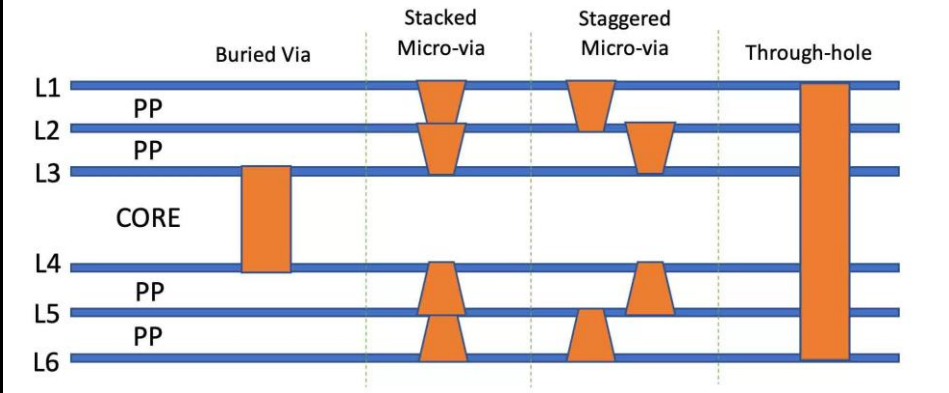
Quality Starts at Drilling



Tongtai Laser Drill



CO2/UV Hybrid Laser Processing Machine



Tongtai Precision Mechanical Drills



200K spindle's offer better small hole quality.

Six work stations offer more production capacity.

Pluritec X-ray targeting for Multilayer Alignment



X-ray targeting measures all inner layer four corner targets and averages the distance for optimal hole location.

Direct Imaging



Schmoll MDI Micromirror-Digital-Imaging
MDI-TT (Tandam Table)

Wet Process - Plating



The system starts with an "Insoluble Anode System" for enhanced operational acid copper plating. It runs off of a Copper Oxide Feeder System that allows for consistent plating since the copper is continually replenished. The consistency is measured by the Inline Colorimeter.

The advantages of Insoluble Anode Technology include improved uniformity in thickness of the plated layer and elimination of copper waste.



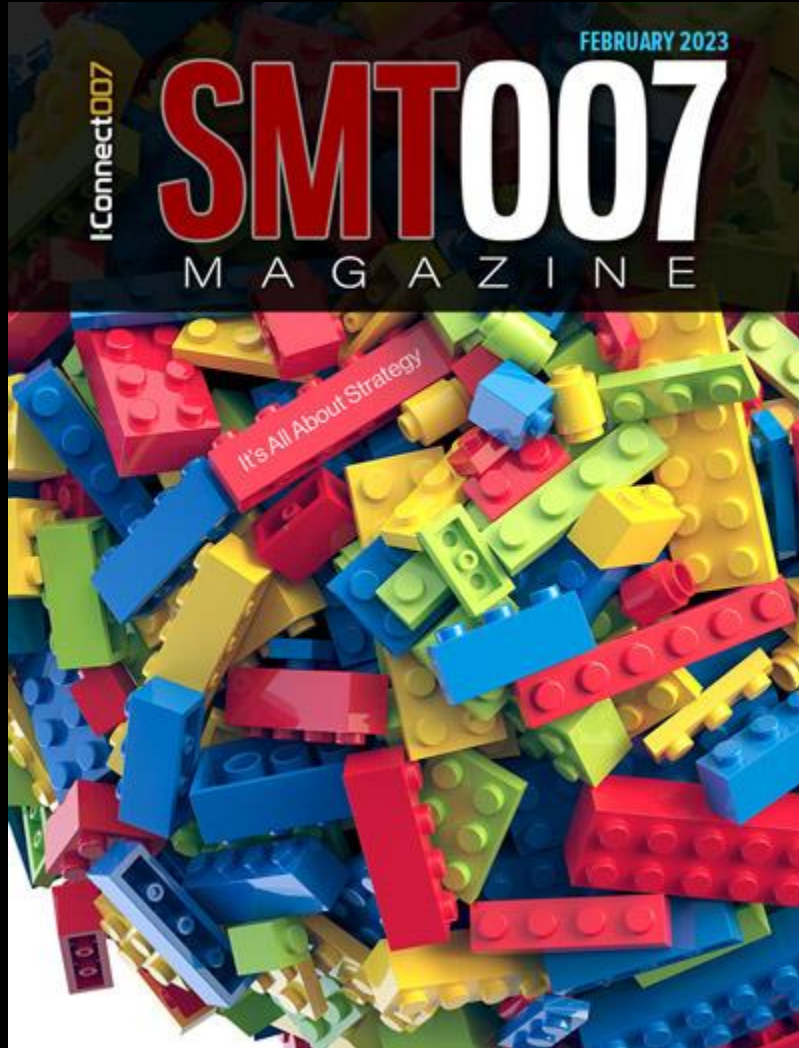
State of the Art Etching Technology & Plasma Etch



Tongtai Router & Gardien Probe Tester



Digital Media



Alpha Circuit News



Presidents Message

It is hard to believe we are already in the 4th quarter of 2022. I am so proud of all the accomplishments we have made this year and am very excited for 2023.

Our new facility in Schaumburg Illinois is close to opening. We are completing the set-up of machinery and making sure it all operates to our standards. The QMS system for the new facility will mirror our current QMS system in Elmhurst.

We completed our IATF 16949 surveillance audit in June. We are looking forward to our AS9100 recertification audit at the end of this year.

A decision was made to add a variety of new materials to our UL approval list. With the material sourcing issues seen in 2021, the addition of new materials will allow us to meet customer demands.

I want to thank our customers for your continued partnership, our vendors for your continued support and our employee's for making 2022 a great year to be in the electronics industry!

Prashant Patel
Owner & President
prashantp@alphacircuit.com

Meet The Team



Shruti Govani and Zeenat Dsa both have extensive experience in the circuit board industry. Starting with the RFQ, these ladies make sure your quote is completed within twenty-four hours, and most of the time they will complete your request the same day. They are also responsible for taking your order from order entry to purchase order confirmation.

You can reach our customer service team by emailing sales@alphacircuit.com or by calling the office at 630-617-5555.

Our new technology center was built for you, our valued customer.

Without you none of this would be possible.