







# MORE THAN JUST ANOTHER CONTRACT MANUFACTURER

Welcome to CO-AX Technology, Inc., your design and manufacturing partner for printed circuit boards, cable assemblies, and integrated electronic systems since 1993.

Our focus is to fast-track your custom assemblies to production and remain transparent before, during, and after delivery. Customers benefit from our multi-disciplined engineering capabilities, state-of-the-art manufacturing, and a reliable supply chain – all from our facility in the USA.

Whether you are evaluating a contract manufacturing transfer or preparing to launch your next project, we are uniquely positioned to align with your needs now, and scale for volume as you grow. From new product introductions to millions of assemblies shipped annually, CO-AX is committed to exceeding your expectations for high-quality, cost-effective products that enhance your ability to compete in the global marketplace.

# **QUALITY ASSURANCE**

CO-AX pledges to produce the highest quality products for our customers. Our certified ISO 9001 and ISO 13485 Quality Management System is an integral part of all we do. From continuous improvement in technology, processes, and services to total employee involvement, our consistent standard of quality measures up to the most stringent requirements. All our products are designed and manufactured in full compliance with prevailing US and International standards.

Our quality certifications include:

- ☐ ISO 9001
- ☐ ISO 13485
- ☐ FDA Registered Facility
- UL Certified



- ☐ IPC-A-610
- ☐ IPC/WHMA-A-620
- ☐ J-STD-001
- RoHS

- REACH
- AS9100 (09/2021)

## LEADING-EDGE MANUFACTURING

We are here to get your products into production quickly and efficiently. We do this through continual investments in automation, operating three shifts, and using lean manufacturing principles to maximize productivity. Customers know we will deliver any size order on time.

To optimize the transition from **prototype to full-scale production**, we use the same Surface Mount Technology (SMT) equipment in both our New Product Introduction (NPI) and standard production lines. The NPI team is certified to IPC-A-610 (for assemblies) and J-STD-001 (for soldering).

An automated inventory management system ensures your components are securely stored, accurately picked, and fully traceable.





# Our manufacturing capabilities include:

#### **PCBAs**

- Surface Mount Technology (SMT)
- ☐ Through Hole Technology (THT)
- Miniaturization
- ☐ Micro Ball Grid Array (BGA) and Ultra-fine Ball Grid Array (uBGA)
- ☐ Flip Chip Placement to 01005
- Wave and Selective Soldering
- RoHS Lead Free, Tin-Lead Free, Water Soluble
- Closed-Loop De-Ionized Water Wash System
- ☐ Solder Paste Inspection (SPI)
- Automated Optical Inspection (AOI)
- In-Circuit Test (ICT)
- ☐ Functional Test (FCT) Fixtures
- Automated Conformal Coating of Acrylic and Polyurethane

#### **Cables and Harnesses**

- Automated Cut and Strip
- ☐ Ribbon, Coaxial, Triaxial and Multiconductor Cable Assembly
- ☐ High Power, Large Diameter
- Insulation Displacement Connector (IDC)
- ☐ Multi-Conductor, Shielded and Non-Shielded
- Complex Cables for Commercial and Industrial Equipment

#### **Panels/Enclosures**

- ☐ Full Cabinet Integration
- Power Distribution Units
- Mechanical and **Electrical Assets**
- PCB and Harnesses
- System Integration
- Standard and Custom Builds

**Our CM Transfer Checklist makes** it easier for you to switch to CO-AX! Let us show you how!

## **DESIGN ENGINEERING EXPERTISE**

CO-AX provides customers with an in-house team of electronic, mechanical, hardware and software/firmware engineers, many of whom have their master's and Ph.D. degrees from prestigious universities. Each member utilizes cutting edge software and hardware tools, such as SolidWorks and Altium, to move your design from concept to completion, and get your product to market rapidly.

When you bring us a new project, you leverage our proven onboarding process that goes beyond simply repeating a design. We work alongside your team to ensure your product is designed for manufacturing, quality, and cost efficiency. We create the Bill of Materials (BOM) and conduct a thorough supply chain analysis, including using SiliconExpert to identify any lifecycle issues. We also create the work instructions for assembly and revise your drawings and specifications, if necessary and approved.

With CO-AX, your finished design moves from proof of concept to prototype in just 1-2 weeks using our NPI work cell and SMT line.





# Our engineering capabilities include:

- Circuit Board Schematic and Layout Design
- Circuit Redesign and **Enhancements**
- Wire Harness and Cable Designs
- ☐ Panel/Box Build Designs
- Custom Turnkey Projects
- ☐ Electronic System Integration

- Software Engineering
- ☐ Hardware and Complete System Design
- ☐ Embedded System and Software Design
- PLC Controllers
- RF Design
- □ Signal Conditioning **Analog and Digital**

- ☐ THT to SMT Conversion
- Design for Manufacturability and Design for Test (DFM and DFT)
- ☐ RoHS Compliance Design and Development
- US and International **Compliance Testing**

## RELIABLE SUPPLY CHAIN

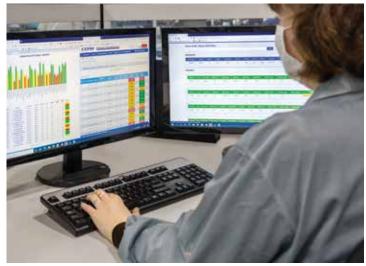
Your products are made right and delivered on schedule with CO-AX. We drive the supply chain and only work with suppliers that meet our rigorous requirements for quality and delivery. Our global sourcing options and purchasing power means we get the most competitive pricing and pass those savings on to you. A dedicated Customer Focus Team for each customer, consisting of Purchasing, Documentation Control, and Program Management, ensures on-time delivery of >95%.

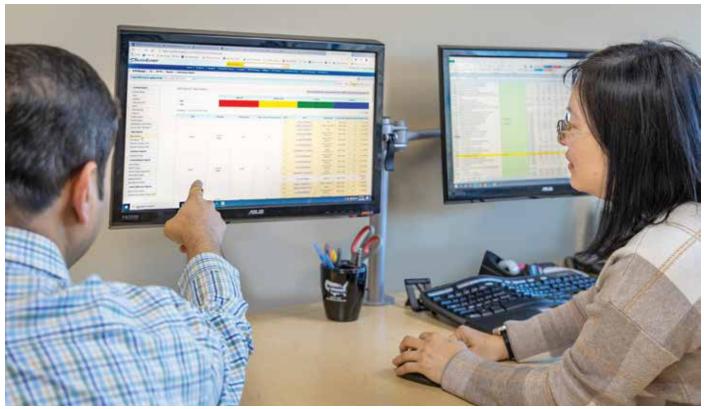
Our Process Traceability Program not only controls and records steps of the manufacturing process, it also tracks labor and product yield. We use SiliconExpert to proactively manage the product lifecycle to mitigate

obsolescence risk in your BOM. Quarterly Reviews promote transparency and keep you informed of fluctuations in BOM and labor cost.

You may also choose to enroll in a Safety Stock Program, where we keep a pre-determined quantity of finished goods in stock to cover any spikes in demand.

With our **Direct-Order-Fulfillment Program**, we can ship directly to your customers – in your packaging with your inserts and selected languages - globally. We also offer regional deliveries in select states so there is more flexibility for expedites.





## MARKETS SERVED

## Medical

Ensuring your products meet the strict regulatory requirements for medical devices is inherent in what we do. We are FDA Registered and certified to ISO 13485 for both design and manufacturing. We provide Product Verification and Process Validation to ensure your products consistently conform to specifications, including:

IQ/	OQ/	ΡÇ

- Corrective Action and Preventive Action (CAPA)
- dFMEA/pFMEA
- Home Health Products ☐ IEC 60601 ☐ IEC 61010

Our experience includes wearables, personal use medical devices, point of care devices, diagnostic and surgical products.



#### **Case Study**

**Application** Sleep Apnea Monitor

Customer Request Create work instructions for assembly. Complete Process Validation using pFMEA,

IQ, OQ and PQ. Manufacture finished device.

**Result** Class II medical device manufactured for low volume production during COVID-19.

Ready to scale to full production on demand.

## **Industrial and Transportation**

From THT to SMT conversion to custom connectivity enhancements, our industrial expertise spans a wide range of applications. We design and manufacture for energy management systems, electric and autonomous vehicles, robotics, lighting and more.



#### **Case Study**

**Application** Medium Voltage Monitoring System for Surge Protection Devices

Customer Request Create an integrated graphical user interface (GUI) to monitor, control and log status

of 32 starters simultaneously. Include IO for remote access.

Result Windows-based touchscreen using a Modbus driver for centralized control. Alerts

users to reset conditions and maintenance needs. Complete transfer of design to

manufacturing with FCT and zero defects.

## **Consumer Goods/Appliances**

Consumer products are often subject to seasonal peaks, so we provide fully-scalable production to fit our customers' fluctuating market needs. Our experience includes UL certification, quick-turn prototypes, connected devices and miniaturization.



#### **Case Study**

**Application** High Volume Consumer Branded Accessories

**Customer Request** Create a smart sensor to ensure only branded accessories are accepted by appliance.

Result NFC sensor encrypted in the US to prevent cloning. AWS-based web server enables

global manufacturing.

## **Smart Systems/IoT**

Living and working smarter through connected devices is the foundation of IoT. Our experience includes designing and manufacturing products that use Bluetooth, Mesh, Wi-fi and Zigbee technology. Applications include appliances, lighting, HVAC, industrial machinery and more.



#### **Case Study**

**Application** Cloud Connectivity for Legacy Appliances

Customer Request Create a communication device for legacy products that enables updating profiles and

settings remotely.

**Result** Turnkey module that interfaces with consumer home appliance via Wi-fi connection.

Transfer of design, implementation of Kanban, and ongoing high-volume production.

## Aerospace

Serving customers in commercial aerospace, NASA and FAA requires stringent quality standards and certification to ISO 9001 and AS9001. Our experience in the aerospace industry includes control modules, control panels, displays, lighting, navigation, fuel, and seat controls with zero defects.



## **Case Study**

**Application** Aircraft Electrical Converters for Actuators

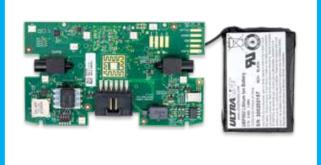
Customer Request Contract Manufacturing Transfer of multiple legacy PCBAs.

**Result** Identified parts obsolescence issues, performed DFM and revised all documentation.

Built functional duplicate test fixtures.











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