QUICKCIRCUIT

CUSTOMER INFORMATION PACK

ABOUT QUICKCIRCUIT

In operation since 1999, QuickCircuit has grown to become New Zealand's leading electronics contract manufacturer. We deliver complete turn-key solutions from procurement through PCBA and box build manufacturing, to warehousing and distribution, for New Zealand's most innovative technology companies.

We are New Zealand's largest locally owned Electronics Contract Manufacturer, operating across two manufacturing sites in Auckland and Christchurch, with a purchasing support office in Shenzhen, China. This gives us the reach to source globally while maintaining the accountability and responsiveness of a local team.

For more than 25 years we have worked alongside New Zealand's leading technology firms across consumer products, household automation, marine, medical devices, to in-flight entertainment, military assemblies and aerospace systems. Our customers partner with us because they want a team with real capabilities, the certifications to back them up, and a culture of genuine ownership.

From component sourcing to finished product on your customer's doorstep, QuickCircuit manages every step of the electronics manufacturing journey under one roof, with one accountable team. Our aerospace grade quality systems and secure digital manufacturing platform provide a fully transparent partnership at every stage.

ONE PARTNER. YOUR COMPLETE MANUFACTURING & SUPPLY CHAIN SOLUTION.

NZ OWNED

INDUSTRY 4.0 LEADER

QuickCircuit has been independently assessed as a Best-In-Class Industry 4.0 Manufacturer through the Smart Industry Readiness Index (SIRI) framework by Callaghan Innovation.

Our custom built Manufacturing Execution System (MES) is developed entirely in-house, enabling comprehensive manufacturing data management with extensive shop floor controls and aerospace level traceability and risk management based systems. This in-house capability drives ongoing improvement and allows us to react quickly and effectively to changes for our customers that is enhanced through QC-Connect, Quickcircuits proprietary customer web-portal.

QUICKCIRCUIT GROUP

QUICKCIRCUIT AUCKLAND

THETA TECHNOLOGIES SHENZHEN

QUICKCIRCUIT CHRISTCHURCH

YOUR PRODUCT'S COMPLETE JOURNEY

From the moment you share your BOM to the day your finished product reaches your customer, QuickCircuit manages the entire process through interconnected stages, delivered as one seamless service.

01 PROCUREMENT & SUPPLY CHAIN

We manage the entire supply chain, leveraging long standing global supplier relationships to secure quality components on time and on budget. Supply chain risk becomes our problem, not yours. Our procurement teams operate from New Zealand, sourcing PCBs, electronic and mechanical components, tooling, and packaging from around the world.

02 PCBA / SMT ASSEMBLY

Our automated surface mount production lines deliver high quality assemblies across a diverse range of technologies. Using Samsung/ Hanwha pick and place machines capable down to 01005, Ekra & GKG high repeatability screen printers, and Mirtec Automated Optical Inspection equipment, every board is built and inspected to the highest standards.

03 TESTING & VERIFICATION

Firmware loading through to functional test processes against set acceptance criteria. Our technicians validate performance and integrity through agreed processes. Nothing ships until it passes. We can also support the design and build of basic functional test jigs.

04 FINAL ASSEMBLY & PACKING

Box build assemblies with cables and accessories, fully labelled and packed to your exact specification. Complete traceability is maintained throughout, whether your product requires retail, industrial, or bespoke packaging.

05 WAREHOUSING & DISTRIBUTION

Your finished goods are stored in our secure facility, ready for rapid delivery. Through tailored SLA, we handle inventory management, order fulfilment, and direct to customer dispatch with automatic Kanban replenishment, keeping your supply chain lean and responsive.

06 QUALITY & COMPLIANCE

With our MES backed by AS9100D certification, our systems and people can manage all levels of compliance requirements including AS9102 First Article Inspection, UL processes, Certificate of Conformance, and ROHS.

FULL SUPPLY CHAIN & PROCUREMENT

With the bulk of your manufacturing cost accumulated through materials, our objective is to get you the best price, best product at the shortest lead times.

Our procurement teams are located in Auckland and Shenzhen, China, and are dedicated to sourcing components from all around the world. Our teams have exceptional skills and experience working with global suppliers to ensure we secure the best stocking options to suit your requirements.

--- TURN-KEY SERVICES

YOUR SUPPLY CHAIN PARTNER

We can source any component you need, from PCBs, electronic and mechanical components, tools or packaging. If you already have stock on hand or prefer to maintain some level of the supply chain yourself, we are happy to work around whatever arrangement suits you best. We can source and supply just part of your build requirements, and if your production volumes are relatively small you can take advantage of our components that are bought in larger volumes at more competitive prices.

TRACEABILE & VISABLE

Using our custom built ERP system, we can offer aviation level traceability options complete with component level Certificate of Conformance and supply chain setup and reporting for UL requirements.

Our QC Connect digital manufacturing platform gives you direct access to purchasing information for your product including product stock status, delivery schedule, liability and stock on hand reports.

TRUSTED	GLOBAL	TRANSPARENT	TRACEABLE
Full Supply Chain Management	Local Staff, Global Nextwork	QC Connect Portal	Aerospace grade traceability systems

CERTIFICATE OF CONFORMANCE

Our team and systems are equipped to offer a certificate of conformance for your products. We can track all products down to part level if this is part of your requirements. This is particularly important with high specification products and where safety is critical and conformance to AS9100 Process.

UL CERTIFICATION SUPPORT

Our facilities are equipped to handle processes that deal with UL certified product. If you have UL certified products or are working towards UL certification, please talk to us about our processes in part sourcing and volume purchasing. The New Zealand UL Auditor has worked with the QuickCircuit systems and in partnership is able to effectively support keeping your product UL certified.

PCBS & BARE BOARDS Rigid, flex, and rigid-flex PCBs sourced from vetted manufacturers across Asia and globally, with full traceability documentation, Certificate of Conformance, and IPC-class options to suit your assembly requirements as required.	**ELECTRONIC COMPONENTS** SMT and through-hole. Active and passive components sourced globally for PCB assembly. Authorised distributor relationships combined with our Shenzhen office give NZ businesses access to multiple supply chain solutions.	**MECHANICAL & CUSTOM PARTS** Enclosures, fasteners, heat sinks, custom-machined; sourced to your drawings and specifications.
PACKAGING & LABELLING Custom packaging, cartons, booklets and labelling sourced and managed as part of your complete build package.	**FLEXIBLE ENGAGEMENT** Already hold some of your own stock or want to maintain some of the supply chain yourself? No problem. We work around your requirements; sourcing only the components you need us to, on your terms.	**VOLUME PRICING BENEFITS** Smaller production runs and prototype customers can often take advantage of our bulk purchasing power, accessing volume pricing and QC discounts on components we hold or through supply relationships as part of our broader procurement programme.

SUPPLY CHAIN VISIBILITY IN YOUR HANDS

QC CONNECT

YOUR MANUFACTURING. CONNECTED.

QC Connect, our manufacturing portal, gives you direct, real-time visibility into your procurement status, no chasing emails, no guesswork. Know exactly where your materials are, what's in stock, and what's on order, at any time.

COMPLETE MANUFACTURING

We know that every customer has their own unique requirements and challenges, and we understand that this is no different for your customers. That is why we take the time to listen and focus on the problem that needs solving. This enables us to deliver configurable solutions that meet your customers' demands, which takes the pressure off you and your team, so you can concentrate on R&D and growing your business.

At QuickCircuit our expertise extends well beyond PCBA manufacturing into all areas of manufacturing such as mechanical engineering, box build assembly, cable manufacture, and custom packaging. Our engineering team is on hand to support and guide you every step of the way.

SURFACE MOUNT TECHNOLOGY

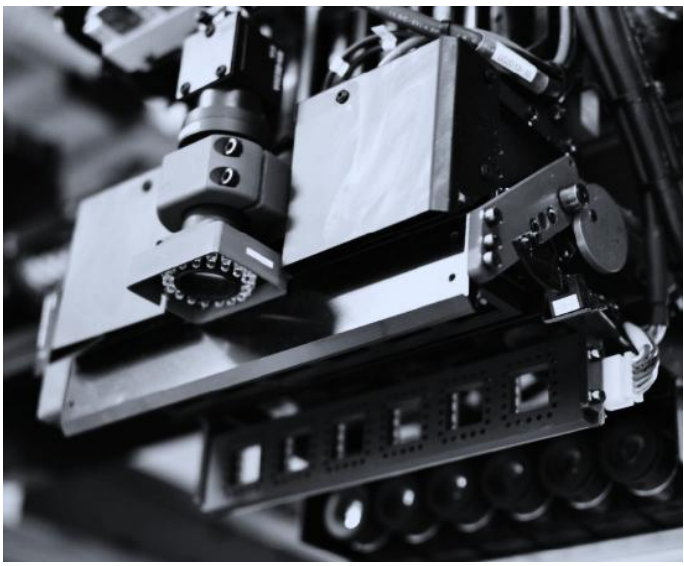
Our automated surface mount production lines consistently deliver top quality assemblies for a diverse range of technologies. With our strong emphasis on Statistical Process Control (SPC) we continually analyse our systems to eliminate potential quality issues, ensuring our customers receive world class assemblies first time.

- IN-LINE FULLY AUTOMATIC SCREEN PRINTERS

With high repeatability & performance our Ekra and GKG Automatic screen printers offer extremely high levels of precision capable of printing micro-aperture stencils with high efficiency and accuracy.

- ADVANCED PICK & PLACE

QuickCircuit utilises Samsung SMT placement machines across our production lines. These machines provide 100% optical pre-placement component alignment, allowing the placement of the very latest SMT components such as micro pitch QFPs, BGAs, CSP and other new generation packaging technologies. We regularly invest in new placement machines and upgrades, with our latest equipment capable of 0.3mm pitch BGA and 01005 chip placement.



AUTOMATED OPTICAL INSPECTION

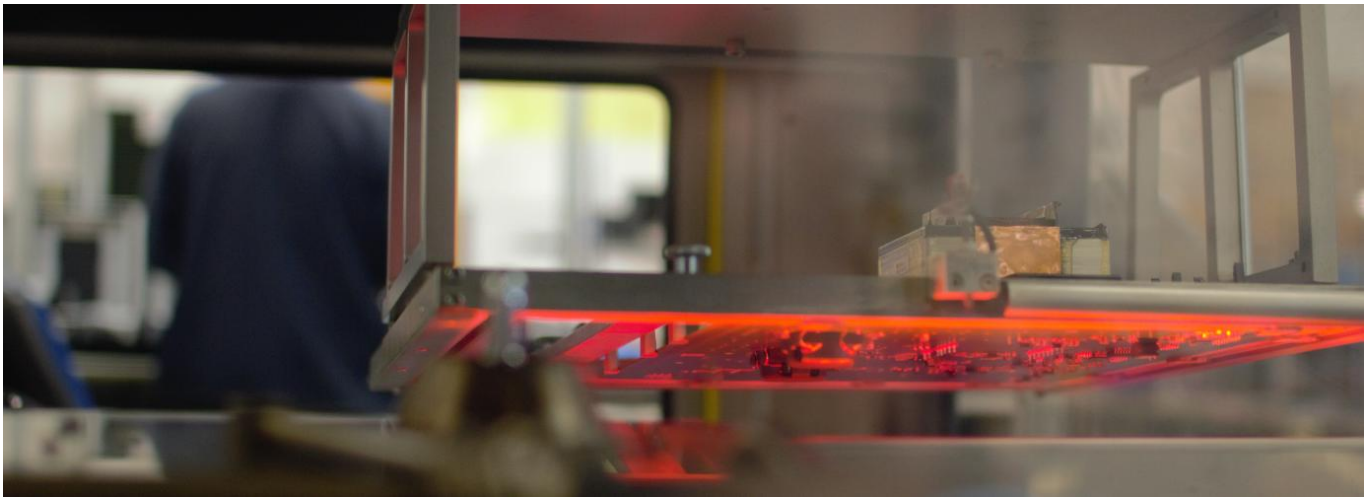
Using Mirtec AOI equipment we thoroughly inspect our PCB assemblies to ensure they meet our stringent quality requirements. This equipment provides consistent in-line monitoring of all surface mount assemblies with real time feedback to production managers and technicians.

SELECTIVE SOLDERING

The area of through-hole soldering continues to develop and QuickCircuit remains committed to ensuring we have the latest equipment to meet quality and throughput requirements. We have invested in selective soldering machines to enable pin by pin soldering on double sided SMT PCBA.

EBSO SPA SELECTIVE SOLDERING MACHINES

These machines come fully equipped with multiple nozzles and fluxers to ensure we can precisely manoeuvre around SMT components. Each machine is individually configured by product to maximise throughput while ensuring adequate barrel fill is achieved to meet IPC class requirements. They are nitrogen filled via our in-house nitrogen generator delivering 99.999% purity to guarantee the perfect solder joint.



CONFORMAL COATING & ADHESIVE APPLICATION

Conformal coating and adhesive application is carried out by trained operators using spraying, dipping, and brushing methods matched to part geometry and coverage needs. UV inspection on every unit confirms coverage and coating quality, maintaining consistent results across production runs.

MECHANICAL ASSEMBLY

When it comes to mechanical assembly you need a team who will work with you to reduce assembly time by utilising lean manufacturing methodologies while providing advice on design and assembly jigs.

Cycle time is a big focus in our mechanical assembly area. If a product is not designed for lean manufacturing then costs can quickly escalate. Every detail surrounding component selection, accessibility to fixings and tool selection needs to be well thought out.

We offer to work with you from the early stages of design to ensure you are guided in best practice design principles that will ultimately result in a lower cost assembly.

FIRMWARE PROGRAMMING & FUNCTIONAL TESTING

When it comes to quality control, no assembly level inspections can surpass the confidence that is assured by undertaking full functional testing. To ensure no internal component level or PCB trace failures exist, we recommend every unit is run through a functional test jig as part of an in-line production process. By doing this, any failures can be recognised and feedback given directly to the production teams and engineers without delay.

We can provide advice, basic design and even build low level functional testers for you, but we strongly recommend investing in advanced automated testers which cover all aspects of functional testing for your product. By utilising fully automated testers you can remove human error from your testing process and further lower your production costs.

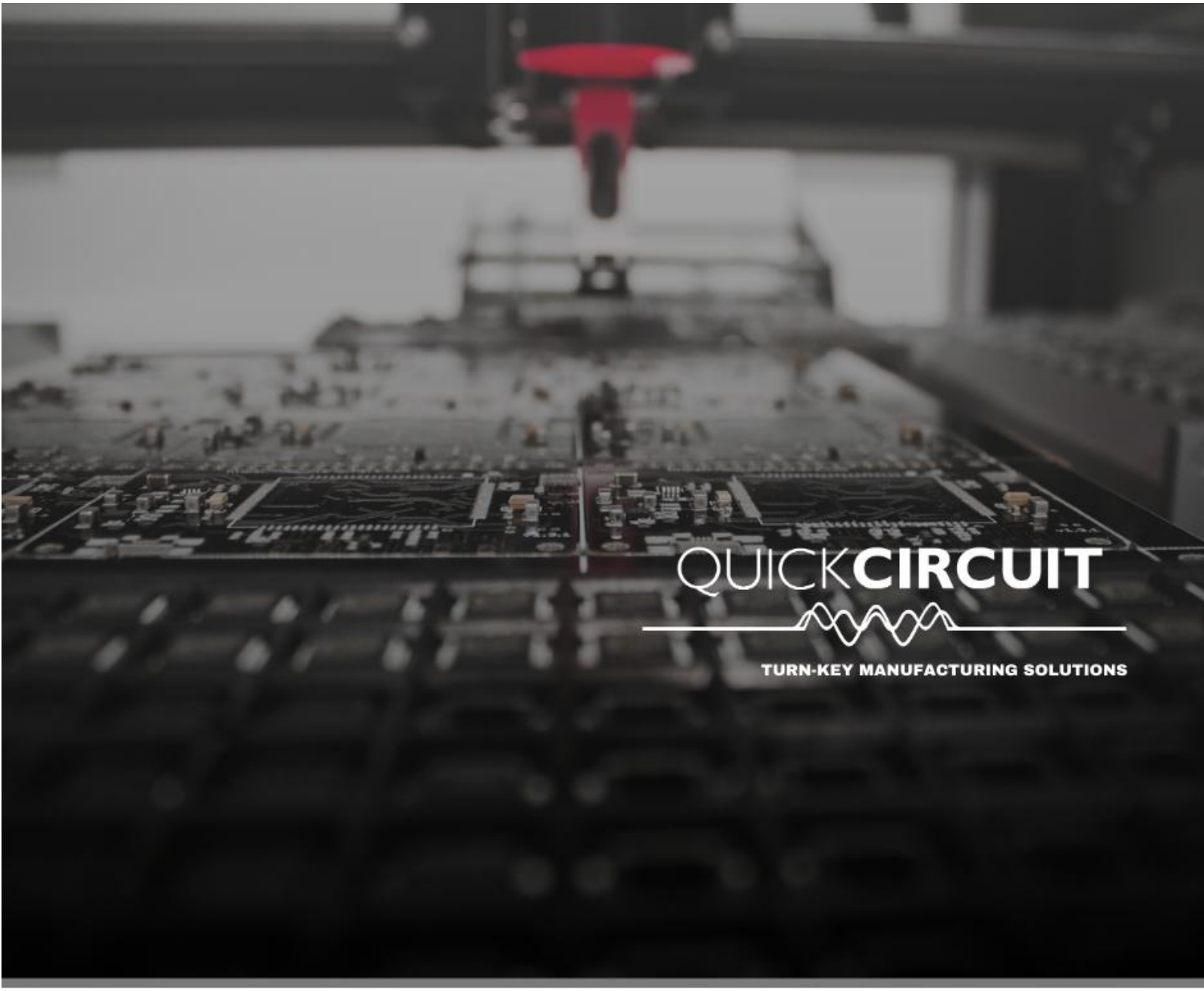
OTHER MANUFACTURING SERVICES

- **Cable Manufacture:** In-house stripping and crimping machines ensure we do not need to outsource simple cable manufacturing

  .

- **Labels & Packaging:** With worldwide contacts and in-house printers we can design and produce custom labels with unique serial numbers in an in-line production environment

- **Environmental Chamber:** Our environmental chamber allows you the option of processing units through a range of humidity and temperatures prior to functional testing, to further grow your confidence in your design and our processes.



ENGINEERING SUPPORT & MANUFACTURING CONSULTATION

Our engineering team works closely with our account managers, customers and our production teams so that everyone has all the information needed to streamline new product introduction. This team has extensive knowledge in all areas of manufacturing from electronic design through to PCB panelisation and mechanical engineering. They live and breathe best practice lean manufacturing concepts and are on hand to provide any assistance in your design or production process.

01
PRE-PRODUCTION

DESIGN REVIEW & RISK ANALYSIS

Manufacturing pack reviewed, PRA/PFMEA conducted, DFM findings documented before any material commitment.

02
PRE-PRODUCTION

PROCESS & TOOLING SETUP

PCB panel and stencil designed, work instructions authored, incoming inspection criteria defined for flagged components.

03
PILOT BUILD

FIRST ARTICLE VALIDATION

Engineering supports the pilot directly — monitoring process performance, capturing final findings, signing off before volume production.

04
PRODUCTION

CHANGE CONTROL & AUDITING

ECN/ECO changes managed with discipline and speed. In-line auditing runs continuously. Non-conformances driven to corrective action.

05
ONGOING

CONTINUOUS IMPROVEMENT

Process improvements and cost reductions identified throughout the product life. Standalone consulting available for next-generation design reviews.

SERVICES

- ### PRODUCT RISK ANALYSIS (PRA/PFMEA)

We spend the time upfront to analyse all aspects of the manufacturing pack, ensuring we are ready for production and identifying areas of concern that may need further process controls when production starts.

- ### DESIGN FOR MANUFACTURE (DFM) & DESIGN FOR TEST (DFT)

A product of the PRA and PFMEA process will be a DFM report. Any areas of concern we identify with the design of the product, or potential areas of failure, will be documented and delivered to you for review before you commit to material and production.

- ### PCB PANELISATION & STENCIL AND TOOLING DESIGN

A well designed PCB panel will drive down cost of material, production processes and result in lower production failures. Our experts apply best practice to limit unnecessary fabrication processes and material, while ensuring the PCB meets production requirements for size, rigidity and throughput.

- ## WORK & AUDIT INSTRUCTIONS

The engineering team will advise and assist in the building of our internal work instruction documents. This is a live paperless system that allows for quick documented changes to be made and given to the production line without delay. We also have an in-production auditing system that alerts line leaders and engineering personnel to the requirement of a production audits based on set AQL limits.

- ## ENGINEERING CHANGES (ECN/ECO)

Our strict yet agile ECN processes, Bill of Material databases, combined with our process control systems mean your product changes, recalls and stop shipment requirements are in the best hands with full traceability and control.

- ## INSPECTION

When it comes to receipt of material from global suppliers, we take the time to ensure the component we have received is the component you wanted. Through the PRA/PFMEA process or via supplier auditing we may identify the need for further checks before we accept components into production.

- ## NON-CONFORMANCE & CORRECTIVE ACTIONS

An outcome of our production systems, auditing and component inspection failures is our non-conformance and corrective action system. This system drives continuous improvement in our facilities with all detailed reports available for our customers.

--- STANDALONE SERVICE

ENGINEERING CONSULTING WITHOUT THE FULL PROGRAMME

CONSULTING ENGAGEMENTS

DFM Review
Design-for-manufacture analysis with written report and actionable recommendations — prior to material commitment.

PFMEA Assessments
Risk identification and process control recommendations for new or existing products, delivered as a structured written report.

PCB DFM Advisory
Expert review and recommendations on panelisation layout and stencil aperture design for SMT production quality.

NPI Programme
Full new product introduction support — from design review through pilot build sign-off, as a standalone engagement.

On-going Advisory Retainer
Retained engineering consulting across multiple product lines or development cycles — scoped to your cadence.

WAREHOUSING & DISTRIBUTION

We want our customers to be able to focus their attention on innovation and business growth without being caught up in managing orders and dealing with freight companies.

At QuickCircuit, we provide distribution and warehousing facilities so we can deliver direct to you or your customers when product is ordered. We have options to build your product to Kanban driven buffer systems so it is ready to go the moment you receive an order. If you provide your customers options of configurable assemblies unique to their requirements, we will tailor a system and solution that removes the headaches from you while maintaining custom flexibility and a reduced lead time.

THE BENEFITS

- Space taken up with finished goods in your office can be reutilised for more valuable projects
- No need for extra staffing or on-call personnel to carry out your shipping or distribution
- By taking advantage of our full turn-key manufacturing and distribution services you can focus your time and attention on R&D and business growth
- Automatic Kanban replenishment systems managed through SLA, keeping your supply chain lean and responsive
- Same day dispatch across New Zealand with international shipment options

-- WHITE-LABEL FULFILMENT

YOUR BRAND. OUR INFRASTRUCTURE.

QUALITY SYSTEMS

Our quality management system isn't just a certificate on the wall, it's how we manufacture. From the moment a component arrives to the moment a finished product ships, every step is controlled, monitored, and traceable.

AS9100D AEROSPACE CERTIFICATION

Since QuickCircuit was founded we have always based our processes on the best practices of the ISO9001 standard and have held ISO9001 certification since 2011. In October 2019, QuickCircuit successfully gained certification for AS9100D, the Aviation, Space and Defence standard for Quality Systems. The **AS9100D** standard carries with it all items relating to **ISO9001** as well as additional specific requirements for the aerospace industry. This was a monumental achievement and one that cements QuickCircuit as a leader in electronic manufacturing.

--- QUALITY SYSTEMS

AEROSPACE-GRADE QUALITY ACROSS EVERY ASSEMBLY

PROCESS CONTROL & TRACEABILITY

We employ real time analysis of the production process through Statistical Process Control (SPC) to identify problem areas on the production floor as they happen. This allows corrective actions to be taken immediately. The key advantage is the elimination of errors at a very early stage in production and, with previous build data available, issues can be prompted ahead of time.

Traceability is an integral part of the QuickCircuit manufacturing system. With the entire ERP system built in-house from the ground up, our processes and tracking systems allow for traceability of specific components down to the board level. Every PCBA produced is given a unique alphanumeric 2D unit ID barcode that is scanned at each stage of the manufacturing process. Each PCBA must have been scanned as passed before it can move to the next stage or be shipped.

The combination of PCBA barcode tracking and QC part number batch tracking means we can provide customers with the ability to batch track all levels of their product to the levels required for aviation, space and military industries.

REAL-TIME Statistical Process Control analysis runs continuously across the production floor. Deviations are surfaced in real time — allowing corrective actions to be taken immediately, before a problem propagates through the build.	**TRACEABILITY** Every PCBA carries a unique 2D barcode scanned at each production stage. A unit cannot advance to the next stage — or be shipped — unless it has been scanned as passed at each prior step. No manual override. No shortcuts.	**AUTHORISATIONS** Our MES enforces operator skill qualifications at the job level. Only operators with the correct certified skill level for a given process can perform that work — automatically controlled, not reliant on supervisor oversight.
INSPECTIONS Automated Optical Inspection is integrated into the production flow, inspecting every component on every board with a high-resolution camera system. AOI results feed directly back into the MES, updating traceability records and reports and flagging any items requiring review.	**AUDITING** The MES automatically triggers product audits based on configured AQL limits — alerting line leaders when an audit is due. Audit results feed back into the system, driving corrective actions and maintaining a complete quality record for every build	**MES** All work instructions, pre-job reviews, and process documentation are delivered via our MES, fully digital, version-controlled, and instantly updatable. Engineering changes reach the production line in real time, with no paper to reprint or distribute.

IPC-A-610 TRAINING

QuickCircuit has invested in an in-house IPC-A-610 Certified Trainer to train our staff in this worldwide recognised inspection criteria for electronic manufacturing. Having the trainer in-house allows for ongoing training of staff in IPC requirements as well as offering training to customers. If you wish to participate in an IPC training course, please discuss this with your Account Manager.

ENVIRONMENTAL MANAGEMENT

As an environmentally aware company, QuickCircuit stringently monitors all environmental aspects of our work and considers impacts to the environment as part of this commitment. QuickCircuit is certified to ISO14001:2015.

--- FULL TRACEABILITY

COMPONENT-LEVEL TRACEABILITY TO AVIATION STANDARDS

TRACEABILITY SYSTEMS

SERIALISATION
Every PCBA receives a unique alpha-numeric 2D unit ID barcode at the start of production

MATERIAL BATCH TRACKING
Risk identification and process control recommendations for new or existing products, delivered as a structured written report.

WORKORDER BOM LOGGING
Component batch data is logged against every PCBA produced in every specific workorder build

PRODUCTION NC
If a manufacturing or component defect is found, our system can immediately identify every unit potentially affected. Batch recall, stop-shipment, and customer reporting are all supported natively

REPORTING
Retained engineering consulting across multiple product lines or development cycles — scoped to your cadence.

VISIBILITY
Customers can view manufacturing routes, BOMs, ECNs, and concessions in real time via QC Connect

QC CONNECT

QC Connect is our secure, real time digital manufacturing platform that gives you a window into every aspect of your manufacturing journey with QuickCircuit. From purchase order through to delivered product, you have answers at your fingertips without phone calls or waiting.

Every customer account is completely isolated. You see only your own orders, BOMs, inventory, and production data. Access is protected by role-based permissions and secure two-factor authentication.

YOUR ORDERS. TOTAL VISIBILITY. ONE PORTAL.

CURRENT FEATURES

LIVE

ORDER MANAGEMENT

- View all open and closed orders
- Access packing slips and delivery records
- Track order status at every stage
- Download order history for your records.

LIVE

PRODUCTION TRACKING

- Watch units scan through each manufacturing stage
- SMT, assembly, test, and inspection visibility
- Live unit counts updated as work progresses
- Know exactly where your job is, at any time

LIVE

INVENTORY MANAGEMENT

- See all stock Quickcircuit holds on your behalf
- View excess component inventory
- Contact your account manager to price excess stock
- Finished goods availability at a glance

LIVE

BOM & ECN MANAGEMENT

- View your full Bill of Materials per product
- Access Engineering Change Notice history
- Review component specifications by revision
- Full audit trail of design changes

FULL TRACEABILITY

BATCH AND UNIT TRACKING

- Look up any unit by serial or batch number
- Retrieve full batch history and genealogy
- Component lot traceability for every build
- Supports warranty, recall, and audit requirements.

ON DEMAND

PRODUCTION DATA & REPORTS

- Access production schedules and job status
- Download packing and shipment documentation
- View historical production data by product
- Supporting your quality and compliance needs.

PLATFORM ROADMAP

We are continuously investing in QC Connect to give you more control, less admin, and deeper insight into your supply chain with QuickCircuit.

QC CONNECT

YOUR MANUFACTURING. CONNECTED.

PHASE 1
SELF -SERVICE & SPEED

Coming soon

- View all open and closed orders
- Access packing slips and delivery records
- Track order status at every stage
- Download order history for your records.

PHASE 2
PRODUCTION TRACKING

Coming soon

- Watch units scan through each manufacturing stage
- SMT, assembly, test, and inspection visibility
- Live unit counts updated as work progresses
- Know exactly where your job is, at any time

PHASE 3
INVENTORY MANAGEMENT

Coming soon

- See all stock Quickcircuit holds on your behalf
- View excess component inventory
- Contact your account manager to price excess stock
- Finished goods availability at a glance

PHASE 4
ANALYTICS & INSIGHTS

Coming soon

- Quality scorecards & yield trends
- On-time delivery reporting
- Custom report builder
- FAI & audit trail exports
- Volume pricing tier visibility

SECURE BY DESIGN

Your data is completely isolated from other customers. Access controls ensure only authorised users within your team can view your orders, inventory, and documents.

LIVE, NOT CACHED

Production data is pulled directly from our manufacturing execution system. What you see reflects the actual state of your job on the factory floor.

NO SURPRISES POLICY

Transparency is a core value at Quickcircuit. The portal is an extension of that commitment, giving you the information you need to manage your supply chain with confidence.

YOUR QUICKCIRCUIT TEAM

Communication and access to support personnel is paramount. We have dedicated account managers who can help you through your entire journey with us. They can provide information on your product at any time and are always keen for a factory tour. Our support team can provide further assistance for specific purchasing requirements, quality system queries, and finance.

SENIOR LEADERSHIP

Name	Role	Location	Contact
Warren Yee	Managing Director	Christchurch	+64 21 780 783 +64 3 662 9888 x318 warren@quickcircuit.co.nz
Mike McElhannan	Technical Director	Auckland	+64 27 484 3054 +64 9 448 1901 x870 mike@quickcircuit.co.nz
Jamie Stuart	Operations Director Quality Director	Auckland	+64 21 190 0949 +64 9 448 1901 x847 jamie@quickcircuit.co.nz
Michaela Yee	Purchasing Manager	Christchurch	+64 21 173 9994 +64 3 662 9888 x312 michaela@quickcircuit.co.nz
Kim Lee	Finance Manager	Auckland	+64 9 448 1901 x845 kim@quickcircuit.co.nz

AUCKLAND ACCOUNT MANAGEMENT

Name	Role	Contact
Jayesh Khunt	Account Manager	+64 22 130 1800 +64 9 448 1901 x827 jayeshk@quickcircuit.co.nz
Josh Clinton	Account Manager	+64 22 078 4183 +64 9 448 1901 x834 joshc@quickcircuit.co.nz
Daniel Aldred	Account Manager	+64 22 151 2100 +64 9 448 1901 x814 daniela@quickcircuit.co.nz

CHRISTCHURCH ACCOUNT MANAGEMENT

Name	Role	Contact
Laura Holden	Account Manager	+64 22 103 3783 +64 3 662 9888 x326 laurah@quickcircuit.co.nz

WORKING WITH US

COMMUNICATION

At QuickCircuit we believe that communication is critical to a successful relationship. From your first interaction with us, you will be assigned a single point of contact through an Account Manager who will work for you to take care of your requirements, project manage your production orders and undertake any required changes. As the project manager, the Account Manager is your advocate and will pull on all necessary resources within QuickCircuit from purchasing to engineering, quality to production, to ensure your requirements are met at every turn.

NEW PRODUCT INTRODUCTION & QUOTE

Supplying us a well documented BOM with key information around your expectations and requirements will help us deliver a fast and competitive material quote. Key requirements to include:

- Expected lead time
- Liability limits
- Whether this is a one off order or ongoing production
- Price expectations

BILL OF MATERIALS: BEST PRACTICE

A well prepared BOM can significantly reduce quoting time, lower costs, and minimise the risk of errors. Here is what we need:

- **Your Part Number (P/N):** This will be imported into our system and helps when matching future BOMs.
- **Detailed Description:** Include any specific voltage and tolerance values for each part.
- **Single Reference/Designator Per Line:** This speeds up the process of importing the BOM into our systems.
- **Manufacturer & Manufacturer Part Number:** Reduces confusion over which part you need. If manufacturer part numbers are not easily attainable, a Digi-Key, Element14 or similar distributor part number is also helpful.
- **Package Type:** Helps when cross checking the part we are ordering with the component size you expect.
- **Comments:** Note whether alternatives are allowable, which can help reduce your minimum pack quantities and lead times.

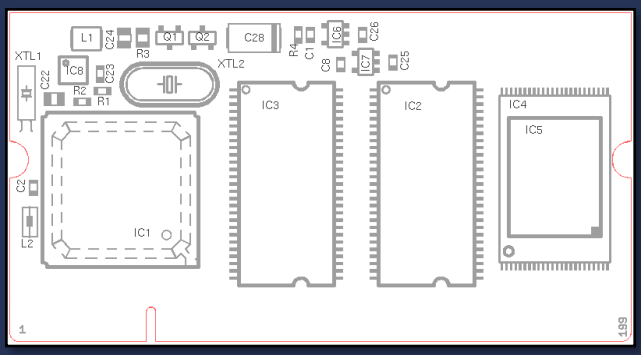
The time invested in a good BOM is well worth it. You can potentially reduce cost, liability and lead time while allowing QuickCircuit to get a quote back to you more promptly with less chance of error.

EXAMPLE BOM FORMAT

P/N	Description	Ref	Qty	Mfg	Mfg P/N	Pkg	Comments
ERU101	CAP ELEC CASE F 220U 20% 35V	C1	1	PANASONIC	EEVFK1V221P	CASE F	
ERU102	CAP NPO 0805 1N5 10% 50V	C3	1	AVX	08055A152JAT2A	0805	ALT BRANDS OK
ERU103	CAP X7R 0603 1N 10% 50V	C4	1	AVX	06035C102KAT2A	0603	ALT BRANDS OK
ERU104	DIODE 1PS76SB10 SOD323	D1	1	NXP	1PS76SB10,115	SOD323	
ERU105	IC 74HC02D QUAD NOR SO14	IC1	1	TEXAS INST	SN74HC02D	SO14	ALT FAIRCHILD
ERU108	RES 0805 4K22 1%	R1	1	YAGEO	RC0805FR-074K22L	0805	ALT BRANDS OK

OVERLAYS, PHOTOS & SAMPLES

A picture enables us to truly see the complexities and processes which are required in producing your product. A good board diagram that clearly shows reference designators and orientation of any part with specific polarity is extremely helpful. Photos and a sample of the product also provide another level of product detail that aids our engineering and production teams.



WORK INSTRUCTIONS

When it comes to the final assembly process, detailed photographic step by step work instructions are critical to ensuring we undertake assembly to specification. In many cases customers' engineering staff have put together prototype units only and have not had the capacity to create full work instructions. We are happy to work alongside you to develop these instructions as part of a pilot build, and ensure that as part of our PFMEA process we identify the critical steps in manufacture and install adequate control mechanisms to prevent failure.

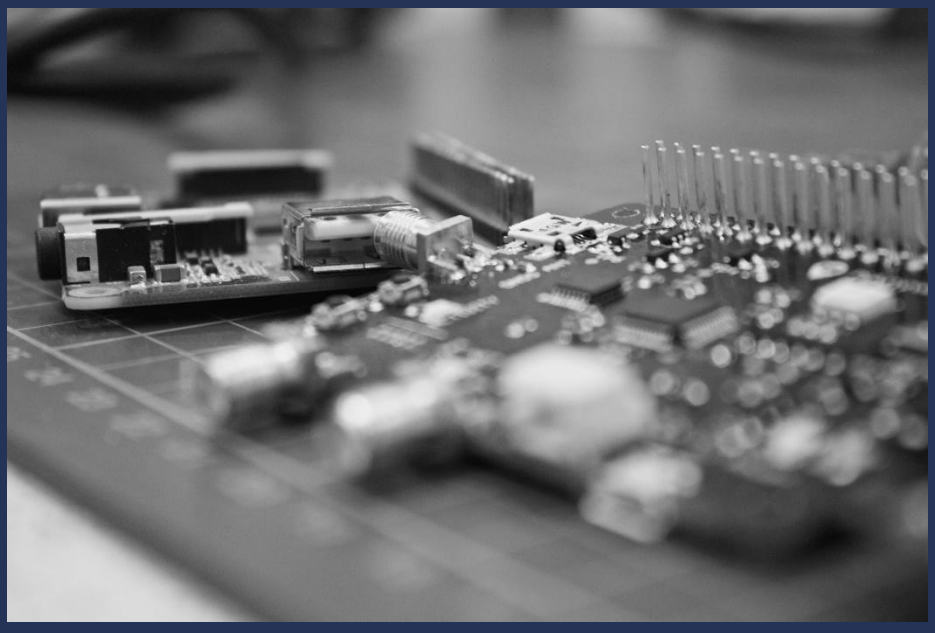
PRINTED CIRCUIT BOARD SPECIFICATIONS

The PCB is a critical custom component of every design. When ordering this item there is a checklist we work through as there is a huge range of potential PCB options, from simple single sided boards with large tracks and clearances, to very high density multi-layer boards with carefully controlled layer stack ups and controlled impedances. When supplying PCB data to QuickCircuit, please use our PCB Specification document. This will help when placing orders with our PCB fabricators.

PRODUCT		Rev	RoHS
Product Status	New Product	IPC Class	
a. Gerber File Format			RS-274-X 4.4 Abs mm
b. Board Finish			
c. Board Thickness		Layers:	
d. Materials Type			
e. Solder Mask / Colour			
f. Silkscreen Overlay			
g. Copper Thickness	Internal :	External:	
h. Layers Spacing			
i. Thickness Tolerance			
j. Hole (Plated / Non Plated)			
k. Via Force Tenting			
l. Blind or Buried Via's			
m. Tooling Strip			
n. Breakout Method			
o Fabrication Marks			
p. Inspection Report			

TESTING

Depending on the level of sophistication required, QuickCircuit can directly assist or work with specialised third parties in developing test solutions. In most cases it is you, the customer, who has the detailed knowledge and can develop testing for the specifics of your own product. Typical test solutions in use at QuickCircuit include AOI, electrical tests via custom bed-of-nails jigs, specific functional tests, and various combinations. We can also offer IT support to record test results by each unit tested if required.



LABEL REQUIREMENTS

At QuickCircuit we can undertake and control any labelling requirements you may have. We have the capabilities for printing and controlling product labels including model and serial numbers with logos and other information, all cross linked back into our database to ensure we meet any traceability requirements.

Information we will need: material type (paper or polypropylene for UL), logo or image, font size and type, address, product number, and any other specifications or data. Please talk to your Account Manager for more information.

QUOTE

Once your requirements are known and we have evaluated all material and labour requirements you will be issued with a quote from your Account Manager. This quote will outline the product particulars along with the labour and material costs, lead times and added fees for things such as tooling, machine setup and testing or assembly jigs.

The quote will also contain a section regarding the expected maximum liability costs. This section relates to the added costs that are required in order for QuickCircuit to meet the per unit price. Liability is a function of supplier minimum order quantity (MOQ) and is something we do our best to manage to minimise risk. Liability is payable on any component that has not been used after 90 days. Speak to your Account Manager about how best to maximise the benefits of liability while ensuring risks are understood.

MANUFACTURING AGREEMENT

For sporadic one-off projects we are happy to work with you on a quote, purchase order and delivery process. When you are ready and it comes time for ongoing work, we would love to sit down and talk together about how we can ensure you are getting the most value out of our services.

A manufacturing agreement provides the base for a successful long-term partnership where we can work closely on competitive pricing, material supply arrangements, and ongoing access to additional resources such as distribution teams, technicians, design engineers and quality systems advisors. Talk to your Account Manager about setting up a manufacturing agreement

OUR LOCATIONS

AUCKLAND (HEADQUARTERS)

Addres26F William Pickering Drive, Albany 0632, Auckland, New Zealand

Phone: +64 9 448 1901

Certifications: AS9100D, ISO9001, ISO14001

CHRISTCHURCH

Address: Unit 1, 44 Clarence Street South, Addington 8024, Christchurch, New Zealand

Phone: +64 3 662 9888

Certifications: AS9100D, ISO9001, ISO14001

SHENZHEN (PURCHASING SUPPORT)

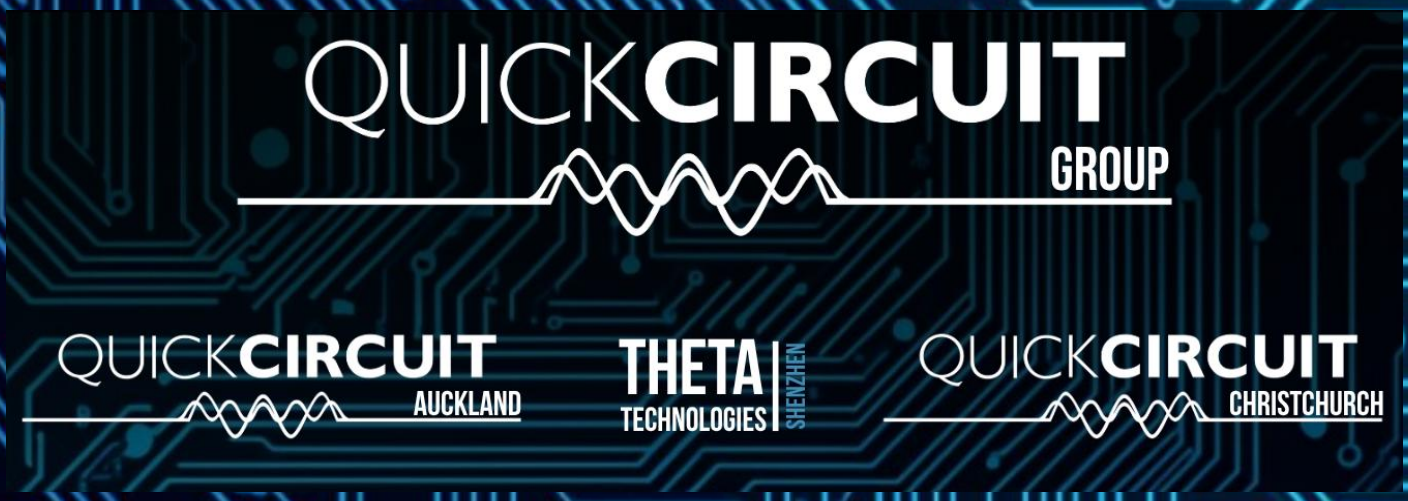
Theta Technologies, a wholly owned subsidiary through common Directorship, operates as a purchasing support business solely for QuickCircuit and functions within our supplier process. Theta Technologies is out of scope for QC QMS certifications.

MAIL ADDRESS

PO Box 302859, North Harbour, Auckland 0751, New Zealand

POLICIES

All QuickCircuit policies and certifications can be found on our website at www.quickcircuit.co.nz/policies



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