

RAPID PROTOTYPING SERVICE

In a dynamic and evolving marketplace, new product development is a key component of a successful business strategy. Technical complexity, reduced timescales and legislative influences are making development significantly more onerous. We recognise these pressures and have designed our **Rapid Prototyping Service** to actively support your development programs providing a valuable resource in the physical realisation of your new products.

Our Philosophy

Service and support.

Almost all design decisions from specification through to component selection to PCB design influence the ease with which the design can be realised.

Design is an evolution of ideas and things change, sometimes by degrees, sometimes radically. The objective of finding an optimum design solution also involves an assessment of ease with which it can be manufactured. The terms **Design for Manufacture** and **Concurrent Engineering** are frequently used in this context. In reality this means the involvement and commitment of your chosen CEM to your project as early in the design cycle as practicable.

Our aim is to provide support throughout the complete development process to ensure that prototypes can be built quickly with minimum hassle. Information derived from the builds is fed back into the development process, smoothing the transition into volume manufacture.

Component Procurement

Extensive in-house stock. Flexible procurement options. Component recovery.

At Norcott we offer a range of delivery times to suit your project.

For prototype volumes (1 to 100+) our standard service is 5 days. For critical projects we can usually manufacture within 24 or 48 hours dependent on product complexity and process requirements.

To achieve these turnaround times our frontend engineering team will work closely with you to ensure that all procurement, tooling and data is prepared ahead of the build date. Once the PCB is released for manufacture we would prepare tooling and placement data and finalise any bill of material changes.

Delivery

24hr Delivery. Concurrent engineering.

With standard lead times in the range of 8-16 weeks, component procurement is frequently a key issue in the development process. For prototype builds, key silicon is usually secured early in the development project by our customers and then supplied 'free issue' along with any other long lead time items.

Standard passives typically account >70% of the placements on a product. Preparing and managing free issue kit for these components can be extremely time consuming.

Norcott holds over 2,000 lines of common and semi-conductors. All of these components are RoHS compliant and compatible with lead based processes.

We can support any procurement strategy that you require, from full procurement through to full free issue, or somewhere in between. If you require Norcott to procure all parts for a design we will need bills of materials well in advance of the target build dates.

Norcott has a worldwide network of suppliers. Our experienced frontend engineering team can also assist in the identification of potential alternatives for 'hard to find' or obsolete components.

Where critical silicon or other components have been used on previous prototypes or products we can, if required, recover these for re-use. QFP's etc., can be straightened/retinned and BGA's re-balled.



Quality

Machine build. Automatic optical inspection. Quality standard IPC-A-610D

At Norcott quality is paramount. When debugging a new design a random sprinkling of manufacturing issues doesn't help and can obscure other issues.

All products including single prototypes are machine built providing quality and consistency that cannot be matched by hand assembly methods. Oven profiling is carried out on new designs to ensure 'right first time' reflow performance.

Machine assembly has the added benefit of identifying potential volume production issues.

These can then be rectified at an early stage reducing costs, PCB design iterations and overall time to market. All assembled product undergoes a 100% Automatic Optical Inspection (AOI) during manufacture. For BGA assemblies our on site X-ray inspection is available as an option.

Norcott assures the acceptability of all electronic assemblies by strict adherence to the IPC-A-610 standard that is widely recognised as the benchmark for electronic assembly. We have been awarded Class 3 (highest classification) across all our manufacturing operations.

Production Engineering

Dedicated production. Engineer design validation. Engineering changes.

Our in house computer aided manufacturing system (CAM) accepts bills of materials and placement data from a wide variety of CAD tools.

A Production Engineer is allocated to every project to ensure its smooth flow through our facility and to provide a key point of contact within the assembly process.

A comprehensive data validation is performed inconsistencies can be identified and rectified. In addition the overall design is reviewed by our production engineering team for any potential, immediate or long term manufacturing issues.

Our efficient change management system and flexible scheduling allows you to apply 'last minute' modifications. We can accommodate most requirements including component addition, removal, substitution, cuts and straps and mechanical modifications. Our experienced production engineering team can advise on proposed modifications to minimise the impact on your product delivery.

Test

Functional testing.

At Norcott we recognise that most Design Engineers wish to bring up a new design themselves. Where this is not practicable we offer a range of test solutions from simple 'power on' and measurements to full functional test.

We are happy to utilise any test rigs that you have available or will work with you to develop a 'test framework'. If required, our test team can develop a fully engineered test capability for your product.

Production Builds (Box Build)

Flexible manufacturing.

With a placement capacity in excess of 5 million components per month we are capable of handling low to mid-volume production runs.

Due to exceptional service and quality levels, many customers now use Norcott for their production requirements.

In addition to our core manufacturing capabilities (assembly of finished product, sub assemblies, PCB's and cable harnesses) Norcott has considerable capabilities in areas such as design support, sourcing, after sales support and obsolescence management.



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