

SouMac's 7 Steps to Successful PCB Assembly Outsourcing

1. Assembly Information

Assembly drawings and parts list showing the correct part code (including package size).

Drawings and parts lists should be issue controlled; any parts not fitted should be listed.

Any special instructions or modifications should be detailed (these should be in assembly terms, e.g.: Start & Finish points of a wire link: preferably with a sketch to determine preferred routing.)

2. PCBs

PCBs should have fiducial marks (preferred but not essential).

Break off strips are required if the board profile is irregular or there are components within 4mm of the edge.

3. Other points to consider

Maximum board dimensions are 400mm x 600mm.

Tooling holes are not essential.

If boards are supplied in panels, a panel size of 200mm by 300mm would be preferred. The breakouts should be pre-drilled to aid separation. With this size panel, if a double sided board, both sides can be accommodated on one screen.

If fiducials are used then they are required on each image and fiducial information should be provided in the CAD.



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4. Surface Mount CAD requirements

Excel is the preferred format, but if this is not possible then ASCII text format.

CAD should be presented in column form e.g.

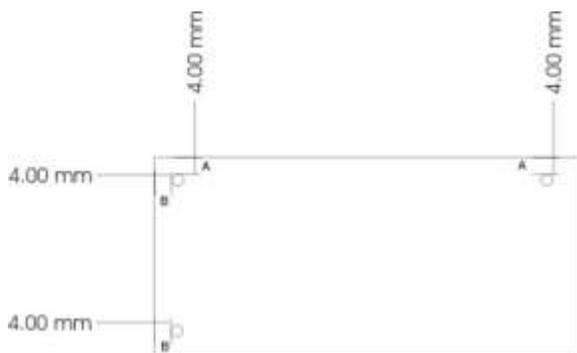
Comp Val	Size	X	Y	Rotation	Comp	Ref	T/B
100nf		0805	12.3	12.5	0	C1	T
100nf		0805	11.2	12.5	90	C2	T
10k	1206	12.9	12.7	180		R1	B

Measurements should be to centre of component. Where possible, fiducial refs should be given in CAD. Preferred measurements are metric. Column order is not critical. Top/Bottom information will be required if components are to be fitted on both sides of boards, this can be by either adding a column in format above with a T or B or issued in separate top/bottom files. Deviations in this format can lead to delays in programming.

5. Preferred Fiducial Layout

Fiducials should be close to the corners of the board. Three off preferred as shown.

A & B dimensions minimum is 4mm.



Fiducials should be solid pads @ 1mm diameter, with a clearance of 2mm diameter (no circuit features or resist). Circles are preferred, squares or diamonds are acceptable.





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6. Purchased & Free Issued Components

A complete BOM identifying correct part codes and package sizes, with specified manufacturers (alternatives and second sources where appropriate). For passives, one would expect to be able to source any manufacturer as long as the part meets the specification.

Free Issue components for machine build would be required in tubes, waffle trays and reels.

7. Tooling

Gerber Data or ODB++ for both sides of the board, to enable suppliers to purchase laser stencils.

Who We Are

SouMac provide Electronic PCB Assembly, Testing and Repair services to customers worldwide. British, American and Japanese Corporations and SMEs alike regard our facility as a vital component of their business.

Our full-service PCB assembly and test solutions exceed the expectations of the most demanding clients, combining high quality PCB Assembly, Test and Repair, reliability of delivery and outstanding customer service.

Our Services Include:

- 24 hour turnaround
- Full turnkey packages
- Prototyping
- BGA, X-Ray and Rework
- Final assembly
- Repair
- Bespoke testing

