

More tools to bring your project to market on time and on budget

Supporting the electronic design community

Our goal is to provide our community of prototype designers and small batch manufacturers with an integrated workflow from design to assembled product. Integrating the process is the key to a faster product development cycle with less risk of errors and lower costs.

EAGLE PCB design software

- **Why did we choose CadSoft/Farnell's EAGLE software?**
 - It has been one of the most popular programs in the market for more than 20 years
 - It offers a range of powerful and affordable solutions for PCB design
 - It is easy to learn, easy to use and well supported
- **Licences**
 - 4 different licence packages plus upgrades are available from our website
- **Support**
 - Via conventional HELP files, webinars and user forums as well as personal support from CadSoft
- **Integrated into Eurocircuits' PCB services**
 - Upload **EAGLE** BRD data files directly into our system without converting
 - Download **EAGLE** DRC templates (DRU files) so your design matches the most cost-effective pooling specifications
 - "PCB quote" button in **EAGLE** V6 enters the design parameters from EAGLE directly into our price calculator



Prototype reflow soldering equipment

- Professional quality soldering of surface-mounted components without the need for a massive investment
- The same accuracy and control as high-end automatic machines but at a much lower cost and with greatly simplified set-up and operation
- Cut manual assembly times by up to 75%
- **eC-stencil-mate** screen printer. Fast, precise, repeatable and economical solder-paste printing for short runs
- **eC-reflow-mate** reflow oven. Precisely controlled solder-paste reflow
- **eC-reflow-pilot** oven control software. On-screen graphic set up and storage of soldering profiles



Soldering consumables

- **Why consumables?**
 - Small batch soldering can be wasteful of consumables like solder-paste that have a limited shelf-life. We have worked with our soldering partner company to develop a range of consumables and tools suitable for prototype and small batch assembly
- **Where to order?**
 - Under the Off-the-shelf tab on the right of the Calculate and order menus



Who are we?

Eurocircuits N.V. was founded in 1991. We specialise in the online supply of prototype and small-series PCBs from our wholly-owned ISO9001:2008 approved factories in Germany and Hungary. Over the last 10 years we have developed an integrated web-based business model that delivers to our customers a wide range of PCB technologies fast, reliably and at low cost. In 2012 we delivered more than 60,000 orders to 8000 customers; more than 98% of deliveries were on time.

We have recently invested more than €1,500,000 in new equipment to meet the rising demand from European designers for a fast, reliable and cost-effective local prototype and small batch service. Side by side with our well-known PCB services we have developed a range of hardware and software tools, backed by seminars and training sessions, to help designers take their designs from initial concept to working prototype fast, with minimum error risk and at low cost, part of our goal – the continuous creation of value for our customers.

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www.eurocircuits.com



Value-adding "online" prototype & small batch "PCB" services

The European reference for online PCB services

New value-adding visualisation tools get your designs into production faster

- **PCB Visualizer** checks your data before order - no risk that data issues will delay delivery
- **PCB Checker** pinpoints any DRC errors directly on-screen - resolve them faster
- **PCB Configurator** calculates design parameters and uploads into the pricing menus > faster offers, less data to enter, less risk of delivery delays

New Smart menus guide you to optimum manufacturability and best price/delivery/quantity combination

Low prices

- **Order-pooling** (combining several orders on standard production panels) cuts costs without compromising quality or delivery
- **No tooling** charges, **no minimum order** size

Reliable quality and delivery

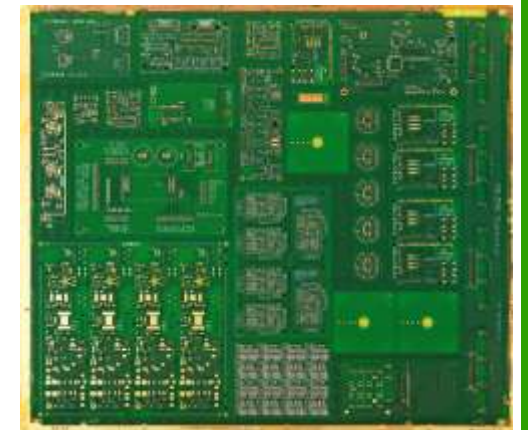
- **We are not brokers.** All boards are made in our own ISO9000 approved factories in Germany and Hungary with full traceability
- **100% manufacturability check** on all orders before production - your guarantee of a high quality board delivered on time
- **40 years** manufacturing experience + on-going investments ensure the capacity and the technology you can depend on now and in the future

Speed and convenience

- **Immediate online prices** 24/7/52. No registration needed.
- **One menu per service** - compare pooled and non-pooled options to get best technology/price combination
- **Order directly online.** First-timer orders go straight into production without paperwork delays
- **Deliveries from 2 working days.**
- **Access your complete PCB records** online (**order status**, data files, previous orders, invoices etc)

Local supplier means personal support

- **We offer solutions** for data issues + **manufacturability analysis** (can cut board costs up to 25%)
- **Use our online and offline resources** to help design more robust and lower cost PCBs



Four services defined by their base materials

"PCB proto" - FR4	"STANDARD pool" - FR4
<ul style="list-style-type: none"> • Dedicated designer prototype service, fast & low-cost • 1, 2 or 5 PCBs in 2, 3, 5 or 7 working days • 2 or 4 layers; 150µm technology • Fully finished, fully tested PCBs 	<ul style="list-style-type: none"> • Wide range of pooling and non-pooling options • Deliveries from 2 days • 1 to 16 layers • Layout technology down to 90µm • Full choice of material thickness etc. Details overleaf.
"RF pool"	"IMS pool"
<ul style="list-style-type: none"> • Isola IS680 and Rogers 4000 series materials • 2 to 4 layers down to 100µm technology • Deliveries from 3 working days 	<ul style="list-style-type: none"> • Insulated Metal Substrate PCBs (ALU) • White/Black soldermask/legend or vice versa • Deliveries from 3 days

Stencils

- **Unframed stainless steel stencils**
- Order eC-compatible stencils pre-registered for use with our eC-stencil-mate and eC-stencil-fix with your PCB order; order custom stencil with your PCB; or order a stencil without PCB

www.eurocircuits.com

Technical Specifications of all Eurocircuits Services

	“PCB proto”	“STANDARD pool”		“RF pool”		“IMS pool”	
	"eC-default technology values"	"Poolable options"	"Non poolable options"	"Poolable options"	"Non poolable options"	"Poolable options"	"Non poolable options"
Number of layers	2, 4	1, 2, 4, 6, 8	0, 10, 12, 14, 16	2, 4	other - ask quotation	1	-
Max. PCB dimensions	425mm x 425mm, max 8.75dm ²	425mm x 425mm, max 8.75dm ²	425mm x 425mm and >8.75dm ² , larger - ask quotation	425mm x 425mm, max 8.75dm ²	425mm x 425mm and >8.75dm ² , larger , ask quotation	550mm x 425mm, max 8.75dm ²	550mm x 425mm and > 8.75dm ² , larger - ask quotation
Min. PCB dimensions	20mm x 20mm	5mm x 5mm	-	5mm x 5mm	-	5mm x 5mm	-
Base material	FR-4, Td>=325°C, T260>=60', T288>=5', CTEz<=3.5%, Tg>=150°C	FR-4, Td>=325°C, T260>=60', T288>=5', CTEz<=3.5%, Tg>=150°C	Isola 370HR, Td>=340°C, T260>=60', T288>=30', CTEz<=2.8%, Tg=180°C	2L - IS680, Tg 200°C 4L - IS680 + Isola 370HR , Tg180°C	Rogers RO4000 series, Tg280°C, other - ask quotation	MOT=130°C, Tg100°C, >=1.3W/mK, CTI=600V, >=5kV, 0.77 K/W	-
Base material thickness: 0, 1, 2 layer	1.55mm	1.00mm, 1.55mm, 2.40mm	0.20, 0.36, 0.50, 0.80, 1.20, 2.00, 3.20mm	0.50mm	other - ask quotation	ALU 1.50mm, 100µm insulation	-
Base material thickness: Multi Layer	1.55mm	1.55mm	0.36, 0.50, 0.80, 1.00, 1.20, 2.00, 2.40, 3.20mm	1.55mm	other - ask quotation	-	-
Base copper foil: 1 Layer	-	35µm/1oz	70µm/2oz-105µm/3oz	-	other - ask quotation	35µm/1oz	-
Base copper foil: 2 Layer	18µm/½oz	12µm/½oz-18µm/½oz-35µm/1oz	70µm/2oz-105µm/3oz	18µm/½oz	other - ask quotation	-	-
Base copper foil: Multi Layer (outer layer - inner layer)	18µm/½oz OL - 35µm/1oz IL	12µm/½oz OL - 18µm/½oz IL, 18µm/½oz OL - 35µm/1oz IL	eC-predefined build ups, any other - ask quotation	18µm/½oz OL - 18µm/½oz IL	other - ask quotation	-	-
Multilayer-build	eC-standard	eC-standard	eC-type 1-7, for specials "ask quotation"	eC-type 8	for specials "ask quotation"	-	-
Extra PTH cycles: blind - buried	-	-	build up to be checked by us	-	build up to be checked by us	-	-
Extra press cycles: sequential build up	-	-	build up to be checked by us	-	build up to be checked by us	-	-
Min. track width outer layer	0.150mm	0.100mm (max.18µm base Cu)	0.090mm (max.18µm base Cu)	0.100mm	0.090mm (max.18µm base Cu)	0.150mm	-
Min. spacing outer layer	0.150mm	0.100mm (max.12µm base Cu)	0.090mm (max.12µm base Cu)	0.125mm	0.090mm (max.12µm base Cu)	0.150mm	-
Min. annular ring outer layer	0.125mm	0.100mm	0.100mm	0.100mm	0.100mm	0.125mm	-
Min. track width inner layer	0.150mm	0.100mm (max.18µm base Cu)	0.090mm (max.18µm base Cu)	0.100mm	0.090mm (max.18µm base Cu)	-	-
Min. spacing inner layer	0.150mm	0.100mm (max.18µm base Cu)	0.090mm (max.12µm base Cu)	0.100mm	0.090mm (max.12µm base Cu)	-	-
Min. annular ring inner layer	0.125mm	0.125mm	0.125mm	0.125mm	0.125mm	-	-
Min. finished hole size	0.25mm	0.15mm	0.10mm, press fit holes	0.15mm	0.10mm, press fit holes	0.60mm	-
Min. outer layer pad diameter = selected finished hole size + "value"	0.350mm (PTH) 0.250mm (NPTH)	0.300mm (PTH) 0.200mm (NPTH)	0.300mm (PTH) 0.200mm (NPTH)	0.300mm (PTH) 0.200mm (NPTH)	0.300mm (PTH) 0.200mm (NPTH)	0.250mm (NPTH)	-
Min. inner layer pad diameter = selected finished hole size + "value"	0.350mm (PTH) 0.250mm (NPTH)	0.350mm (PTH) 0.250mm (NPTH)	0.350mm (PTH) 0.250mm (NPTH)	0.350mm (PTH) 0.250mm (NPTH)	0.350mm (PTH) 0.250mm (NPTH)	-	-
Min. Cu to board-edge – outer layers	0.250mm (routed)	0.250mm (routed), 0.450mm (V-cut)	-	0.250mm (routed), 0.450mm (V-cut)	-	0.250mm (routed), 0.450mm (V-cut)	-
Min. Cu to board-edge – inner layers	0.400mm (routed)	0.400mm (routed), 0.450mm (V-cut)	-	0.400mm (routed), 0.450mm (V-cut)	-	-	-
Extra features in copper	-	copper up to board edge, plated holes on the board edge, round edge plating	-	copper up to board edge, plated holes on the board edge, round edge plating	-	copper up to the board edge	-
Surface finish	lead-free finish at our discretion for best price	lead-free for best price, ENIG selective, LF HAL	ENIG overall, Im Ag, HAL Pb/Sn	ENIG selective	LF HAL, ENIG overall, Im Ag, HAL Pb/Sn	LF HAL	-
Soldermask type/colour	Liquid Photo Image able - green	LPI: green, black	LPI: blue, red, white, clear	LPI: green	LPI: blue, red, white, clear	LPI: white, black (white = default)	-
Legend colour	white (no, one or both sides)	white (no, one or both sides)	yellow, black, white PIL	white (no, one or both sides)	yellow, black, white PIL	black, white (black = default)	-
Extra options	-	peel able mask, via filling	gold fingers, carbon pads, heat sink paste	peel able mask, via filling	gold fingers, carbon pads, heat sink paste	-	-
Slots and cut-outs	2.0mm tool	0.5mm, 1.2mm, 2.0mm tool	-	0.5mm, 1.2mm, 2.0mm tool	-	2.0mm tool	-
Delivery panels (customer panels)	-	2.0mm break-routed, V-cut	-	2.0mm break-routed , V-cut	-	2.0mm break-routed , V-cut	-
Max. customer panel dimensions	-	350mm x 250mm	425mm x 425mm and >8.75dm ² , larger - ask quotation	350mm x 250mm	425mm x 425mm and >8.75dm ² , larger - ask quotation	550mm x 425mm, max 8.75dm ²	550mm x 425mm and > 8.75dm ² , larger - ask quotation
Min. customer panel dimensions	-	50mm x 50mm	-	50mm x 50mm	-	50mm x 50mm	-
eC-registration compatible panel	-	Max 350mmx250mm, Min 50mmx50mm	-	Max 350mmx250mm, Min 50mmx50mm	-	Max 350mmx250mm, Min 50mmx50mm	-
Electrical test	standard	standard, option for 1L	-	standard	-	option	-
UL marking	available	available	-	not yet available	-	not yet available	-
Stencil material	130µm stainless steel	130µm stainless steel	-	130µm stainless steel	-	130µm stainless steel	-
Max. stencil size	595 x 595 mm	595 x 595 mm	-	595 x 595 mm	-	595 x 595 mm	-

The values of the technology parameters (except base material) under the **PCB proto** column are the Eurocircuits technology defaults. These are also used in **STANDARD pool** and **RF pool**. In **STANDARD pool** and **RF pool** pooling limits and non-pooling limits are listed for all technology values.

To see all the **eC-predefined build ups for multi layers**, look online at the "build up wizard" in our calculation program. For all services the aspect ratio is 1 to 8.