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** from 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. This is now supplemented by medium-volume PCBs from our 2013 plant in India. Over the last 15 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 2014 we will deliver over 75,000 orders to 8,500 customers; +98.5% of deliveries are on time.

Every year, we invest around €1,500,000 in equipment and software to meet the rising demand from European designers for a fast, reliable and cost-effective 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. Our goal: the continuous creation of value for our customers.

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

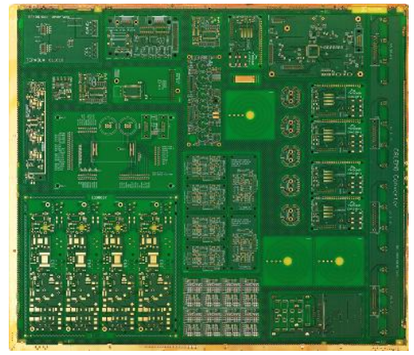
The European reference for online PCB services

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

Five services – one set of smart menus

"PCB proto" – FR4

- **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

"STANDARD pool" – FR4

- **Wide range of pooling and non-pooling options**
- Deliveries from 2 working days
- 1 to 16 layers
- Layout technology down to 90µm
- Full choice of material thickness etc. Details overleaf.

"RF pool"

- **Isola I-TERA and Rogers 4350B series materials**
- 2 to 4 layers down to 90µm technology
- Deliveries from 3 working days

"IMS pool"

- **Insulated Metal Substrate PCBs (ALU)**
- White/Black soldermask/legend or vice versa
- Deliveries from 3 working days

"BINDI pool"

- **Indian prices – European quality**
- 1, 2 and 4 layers, 150µm technology
- **Out of our own plant, Eurocircuits India Ltd**
- Deliveries from 12 working days

www.eurocircuits.com

Technical Specifications of all Eurocircuits Services

	"PCB proto"	"STANDARD pool"		"BINDI pool"	"RF pool"		"IMS pool"
	"eC-default technology values"	"Poolable options"	"Non poolable options"	"Poolable options"	"Poolable options"	"Non poolable options"	"Poolable options"
Number of layers	2, 4	1, 2, 4, 6, 8	0, 10, 12, 14, 16	1, 2, 4 (Feb 2015)	2, 4	other - ask quotation	1
Max. PCB dimensions	Max 8.75dm², 500mm x 425mm for ML, 580mm x 425mm for 1L and 2L	500mm x 425mm for ML, 580mm x 425mm for 0L, 1L and 2L	-	500mm x 425mm for ML, 580mm x 425mm for 0L, 1L and 2L	500mm x 425mm for ML, 580mm x 425mm for 2L	-	580mm x 425mm
Min. PCB dimensions	20mm x 20mm	5mm x 5mm	-	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	FR-4, Td>=325°C, T260>=60', T288>=5', CTEz=<3.5%, Tg>=150°C	2L - I-TERA (Tg 200°C) or RO4350 4L - I-TERA or RO4350 + Isola 370HR	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	1.00mm, 1.55mm, 2.40mm	0.50mm	other - ask quotation	ALU 1.50mm, 100µm insulation
Base material thickness: Multi Layer	1.55mm	1.55mm (and 1.00mm for 4-layers)	0.36, 0.50, 0.80, 1.20, 2.00, 2.40, 3.20mm	1.55mm	1.00mm	other - ask quotation	-
Base copper foil: 1 Layer	-	35µm/1oz-70µm/2oz	105µm/3oz	35µm/1oz	-	other - ask quotation	35µm/1oz
Base copper foil: 2 Layer	18µm/½oz	12µm/⅓oz-18µm/½oz-35µm/1oz-70µm/2oz	105µm/3oz	18µm/½oz-35µm/1oz	12µm/⅓oz-18µm/½oz	other - ask quotation	-
Base copper foil: Multi Layer (outer layer - inner layer)	18µm/½oz OL - 35µm/1oz IL	12µm/⅓oz OL - 18µm/½oz IL, 18µm/½oz OL - 35µm/1oz IL	eC-predefined build ups, any other - ask quotation	18µm/½oz OL - 35µm/1oz IL	12µm/⅓oz OL - 12µm/⅓oz IL 18µm/½oz OL - 18µm/½oz IL	other - ask quotation	-
Multilayer-build	eC-standard	eC-standard	eC-type 1-7, for specials "ask quotation"	eC-standard	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)	0.150mm	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)	0.150mm	0.125mm	0.090mm (max.12µm base Cu)	0.150mm
Min. annular ring outer layer	0.125mm	0.100mm	0.100mm	0.125mm	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)	0.150mm	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)	0.150mm	0.100mm	0.090mm (max.12µm base Cu)	-
Min. annular ring inner layer	0.125mm	0.125mm	0.125mm	0.125mm	0.125mm	0.125mm	-
Min. finished hole size	0.25mm	0.15mm	0.10mm, press fit holes	0.25mm	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)	0.350mm (PTH) 0.250mm (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)	0.350mm (PTH) 0.250mm (NPTH)	-
Min. Cu to board-edge – outer layers	0.250mm (routed), 0.450mm (V-cut)	0.250mm (routed), 0.450mm (V-cut)	-	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), 0.450mm (V-cut)	0.400mm (routed), 0.450mm (V-cut)	-	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	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, LF HAL, Im Ag, ENIG selective, ENIG overall	HAL Pb/Sn	LF HAL	ENIG selective, ENIG overall, Im Ag	LF HAL, HAL Pb/Sn	LF HAL
Soldermask type/colour	Liquid Photo Image able - green	LPI: green, black, bleu, white	LPI: red, clear	LPI: green, black, bleu, white	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)	white (no, one or both sides)	yellow, black, white PIL	black, white (black = default)
Extra options	-	peel able mask, via filling, heat sink paste	gold fingers, carbon pads	Peelable mask	peel able mask, via filling, heat sink paste	gold fingers, carbon pads	-
Slots and cut-outs	2.0mm tool	0.5mm, 1.2mm, 2.0mm tool	-	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	2.0mm break-routed , V-cut	-	2.0mm break-routed , V-cut
Max. customer panel dimensions	350mm x 250mm	350mm x 250mm	425mm x 425mm and >8.75dm²,	350mm x 250mm	350mm x 250mm	425mm x 425mm and >8.75dm²,	550mm x 425mm, max 8.75dm²
Min. customer panel dimensions	50mm x 50mm	50mm x 50mm	-	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	Max 350mmx250mm, Min 50mmx50mm	-	Max 350mmx250mm, Min 50mmx50mm
Electrical test	standard	standard, option for 1L	-	standard, option for 1L	standard	-	option
UL marking	Not available	available	-	not yet available	not yet available	-	not yet available
Stencil material	100µm and 130µm stainless steel	100µm and 130µm stainless steel	-	100µm and 130µm stainless steel	100µm and 130µm stainless steel	-	100µm and 130µm stainless steel
Max. stencil size	595 x 595 mm	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, BINDI** 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.

For further information, please go to **www.eurocircuits.com** and go to the **"PCB proto", "STANDARD pool", "BINDI pool", "RF pool" or "IMS pool"** menus.

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