

Prototyping & PCBs

PCB Prototyping

178

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Prototyping Board (Protobloc 1)

This prototyping board (protobloc 1 breadboard) is a prototyping system offering a fast and economical method of circuit construction and development. Solderless in concept



allowing components to be used time and time again, while components are plugged into the board and are retained by double leaf spring contacts. Incorporating the following features: protobloc prototyping board, 2 (29 x 5) grid size, 390 number of holes, 2.54mm hole pitch, 0.3 to 0.8mm wire size acceptability, 3A contact current, abs polymer body material, silver alloy/nickel alloy contact material, fast and economical method of circuit construction and development, double leaf spring contacts, allowing all dual-in-line integrated circuits, ideal system for the teaching of electronic systems and circuit design, ideal introduction to solderless circuit development systems.

- · Sockets are on a 2.54mm matrix, allowing all dual-in-line integrated circuits, plus many other components to simply be plugged into the board
- An ideal system for the teaching of electronic systems and circuit design
- Total of 390 tie points
- Two sets of 29 rows of 5 interconnected contact sockets 4 rows of 25 interconnected sockets suitable for use as
- power supply rails ABS polymer board mounted on an adhesive foam base
- Can accommodate up to three 16-pin devices
- · An ideal introduction to solderless circuit

development systems

Order code 1+ 10+ 50+ 100+ **34-0650** 4.05 3.64 3.32 3.08

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Туре

Protobloc 1

Protobloc 2 Prototyping Breadboard

This prototyping board (protobloc 2 breadboard) is a prototyping system offering a total of 840 tie points, consisting of two sets of 64 rows of 5 inter-connected sockets Incorporating



the following features: protobloc 2, 2 (64 x 5) grid size, 840 number of holes, 0.3 to 0.8mm wire size acceptability, 3A contact current, ABS polymer body material, silver nickel contact material, 4 rows of 50 interconnected sockets suitable for use as power supply rails, all contact positions are clearly defined on an alphanumeric grid.

- 4 rows of 50 interconnected sockets suitable for use as power supply rails
- · All contact positions are clearly defined on an alphanumeric grid
- · ABS polymer board mounted on a non-removable self-adhesive foam base
- · Can accommodate up to seven 16-pin devices
- White colour

Туре	Order code	1+	10+	50+	100+
Protobloc 2	34-0655	6.96	6.10	5.63	5.33
					020450

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Transparent 400 point Solderless Breadboard

Solderless Breadboard allows components to be easily connected together into circuits and used time and time again for experiments and

prototyping. This

transparent topped version allows visibility of the contacts and how they are connected together, making it ideal for use in training and education.

- Transparent Solderless Breadboard
- Solderless concept allows components to be used again and again · Ideal system for teaching electronic systems and circuit
- design
- · Components are plugged into the board and are retained by double-leaf phosphor bronze nickel-plated spring contacts
- Sockets are on a 2.54mm matrix, allowing dual-in-line integrated circuits, plus many other components to simply be plugged into the board
- Two sets of 30 rows of 5 interconnected contact sockets Allows up to 4 connections to each pin of ICs placed
- accross the central gap
- 2 rows of 50 contacts for power supply distribution
- Total of 400 tie points
- All contact positions are clearly defined on an coloured alphanumeric grid
- ABS polymer board mounted on an adhesive foam base Accepts components with wire sizes from 0.288 to
- 0.841mm (29 to 20 AWG)
- Dimensions: 83.5 x 54.5 x 8.5mm

These boards can be slotted together for larger circuits but do not physically fit with Protoblocs.

Туре	Order code	1+	10+	50+	100+
Transparent breadbord	34-0671	4.14	4.06	3.83	3.48
					518906

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Туре

Breadboard Jumper Wires

Bundle Of 75 A bundle of 75 assorted

reuseable Jumper Links for use with Protobloc prototyping boards and other breadboards

- Made from insulated 22AWG solid copper wire
- Fitted with plugs that fit the connectors in the breadboard without damage
- 4 lengths
- · Assorted colours for easy identification
- Supplied in packs of 75



34-0673 4.14

Order online

Save time, and place your order at: www.rapidonline.com

This jumper wire kit has been designed for use 10000 10000 10000 10000 10001 with protobloc prototyping boards has a variety of 10055 20050 20000 20068 20050



hinged plastic storage case

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Jumper Wire Kit

- Variety of colours for easy identification
- Pre-cut and pre-formed jumper wires with ¼in stripped end bent 90°
- Box dimensions: 270 x 124 x 30mm

Set includes 25 each of the following lengths: 0.1in (no insulation), 0.2in, 0.3in, 0.4in, 0.5in, 0.6in, 0.7in, 0.8in, 0.9in, 1in, 2in, 3in, 4in and 5in.

уре	Order code	1+	10+	
umper wire kit	34-0495	12.45	11.68	
				029452

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Copper Track Cutter for Stripboard and Prototype Boards



in a hole at the point where the break is required and twist clockwise.

- · Swivel top handle for easy turning
- Bit size 3.5mm
- Overall length 115mm

Гуре	Order code	1+	10+	50+	
Stripboard cutter	34-0608	3.71	3.42	2.93	
					550885

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Jumper Wire 40 Way Ribbon Cable



These high quality jumper wires come in a strip of 40 with four pieces of each of ten colours. They have 0.1in sockets on either end and fit cleanly next to each other on a standard pitch (2.54mm) header. You can always pull the ribbon wires off to make individual jumpers, or keep them together to make neatly organised wire harnesses.

- · Available in male-female, male-male and
- female-female versions
- Length 200mm 40 ways

Туре	Order code	1+	10+	100+	
F to F	34-0684	4.81	4.20	3.83	
M to F	34-0686	4.81	4.20	3.83	
M to M	34-0688	4.81	4.20	3.83	

Education 7

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Stripboard

These stripboards provide a simple form of printed circuit, ideal for prototype and development work. Featuring holes with

a 2.54mm pitch, while manufactured with copper clad paper and phenolic laminate body material.

- Can be readily cut to size
- Provides a simple form of printed circuit
- · Copper strips form the interconnections and can easily be cut where required
- Made from copper-clad laminated board
- · All boards are punched on a 0.1in pitch

Technical sp	ecification				
Board Size 25 x 64 64 x 95 95 x 127	Tracks No. 9 24 36	Holes 25 37 50	Board Size 95 x 432 119 x 455	Tracks No. 36 46	Holes 170 179
				MOOE	

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Board Size (mm)	Order code	5+	10+	50+	100+
25 x 64	34-0500	0.346	0.32	0.281	0.214
		Price each			
Board Size (mm)	Order code	1+	10+	50+	100+
64 x 95	34-0505	0.989	0.948	0.841	0.695
95 x 127	34-0515	1.82	1.65	1.58	1.33
95 x 432	34-0535	6.58	5.81	5.36	4.58
110 x /55	34.0540	7 07	7 5 2	7 28	6.63

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Plain Copper-Clad Fibreglass **Circuit Board**

High quality 305g/m copper clad boards in epoxy glass material.

- Grade: FR4
- Plain fibreglass board
- Single or double sided
- paper available
- 35 Micron copper thickness
- Suitable etchant: ferric chloride solution
- Thickness: 1.6mm

Туре	Order code	1+	20+	50+	
Eurocard size - single sided					
100x160	34-0800	1.23	0.986	0.867	
233.4x160	34-0805	2.42	2.16	1.96	
100x220	34-0810	1.60	1.39	1.19	
233.4x220	34-0815	4.30	3.89		
Double sided					
100x160	34-0820	1.30	1.04	0.904	
233.4x160	34-0825	2.51	2.29		
100x220	34-0830	1.38	1.23	1.13	
233.4x220	34-0835	3.58	3.26		
Other sizes - single sided					
203x95	34-0360	1.30	1.16		
203x305	34-0365	3.81	3.42	3.14	
Double sided					
203x305	34-0845	5.28	4.98	4.33	
					029478

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Low Cost Copper-Clad SRBP Circuit Board

Single-sided copperclad printed circuit board made from SRBP: a paper-based material.

- Excellent for low-cost
- printed circuit boards Easier to drill than
- epoxy glass fibre · Results in longer life for drills and cutting tools
- Suitable etchant ferric chloride solution

Туре	Order code	1+	10+	50+	100+
100 x 160	34-0860	0.851	0.765	0.737	0.68
100 x 220	34-0862	1.28	1.21	1.13	1.06
233 x 160	34-0864	1.88	1.40	1.21	
233 x 220	34-0866	2.61	2.20	2.05	1.82
203 x 305	34-0868	3.10	2.32	2.01	1.86
					032634

Microtrak FR4 Positive Photoresist Copper Clad Printed Circuit Board PCB

Single-sided and double-sided copper-clad fibreglass PCB laminate photo etch boards coated with a high resolution photo-resist.

Microtrak laminates consist of FR4 epoxyglass laminate sheets, dip-coated with a positive working photo-resist. The photo-resist contains a dye that provides a good copper and allows boards

the developing stage. Boards are protected by a specially designed light-proof blue film which allows them to be guillotined without the risk of fracturing the photo-resist.

- FR4 fibreglass laminate
- Thickness 1.5mm
- Copper thickness 35 micron
- · High resolution positive photo-resist
- · Supplied covered with blue light-proof film · Single or double sided
- Wide range of sizes

Microtrack FR4 boards require a developer strength of 10 to 1. (Not 20 to 1 as with other products it replaces.) Exposure time is typically 2.5 to 3.5 minutes.

Technical specification	
Thickness	1.6mm
Copper thickness	35µm
Dissipation factor	35
Dielectric constant	5.4
Solder bath resistance @ 260°C	20s
Resist thickness	5µm
Spectral response	350 to 450nm
UV light energy required	Approx. 50mJ/cm
Shelf life	1 year @ 15 to 20°C
Developer	CPD5
Etchant	Ferric chloride / fine etch c

Single sided					
160 x 100mm	34-1500	3.69	3.48	3.25	
203 x 114mm	34-1502	5.00	4.68	4.45	
220 x 100mm	34-1504	4.70	4.37	3.82	
233.4 x 160mm	34-1508	7.64	7.09	6.55	
233.4 x 220mm	34-1506	8.18	7.57	6.66	
457 x 305mm	34-1510	24.39	22.79	20.66	
Double sided					
160 x 100mm	34-1512	4.59	4.24	3.78	
203 x 114mm	34-1514	6.52	6.25		
220 x 100mm	34-1516	5.67	5.35		
233.4 x 160mm	34-1520	8.37	7.27		
233.4 x 220mm	34-1518	8.56	8.02		
457 x 305mm	34-1522	28.92	26.77	24.63	
					560428

Order code 1+



Laser Printer PCB Artwork Film - Packs of A4 Sheets

A specially formulated translucent film for the production of high-resolution PCB artwork directly from any laser printer.



of 10 or 100 A4 sheets of film



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Supplied in packs

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Ferric Chloride Etchant 5L

A special formulation of ferric chloride for etching metals and all types of copper circuit boards.

- Supplied as full strength (45 Baume), suitable for metals such as stainless steel, nickel, brass. etc.
- Dilute by an additional 30% with water for use with copper
- · Supplied in 5 litre containers, weight 7.5kg

Туре Order code 1+ Ferric chloride 5L 34-0758 14.99 13.99



Tin Plating Crystals - 1 litre/5 litre

These tins of Seno immerse tin crystals from Mega Electronics are sufficient to cover either 0.6m² or 2.7m² of boards. The powder is mixed with warm 50°C water, allowed to cool and used at room temperature - no heated

tanks are required. The low operating temperature allows very small tin molecules to be deposited, giving a very smooth and hard surface. The longer the board is left immersed, the thicker the deposit (1.5 to 2.0 microns in 30 minutes and 4.5

- microns in up to 2 hours). · Solution lasts up to six months
- · Unmixed powder has unlimited shelf life
- · Low operating temperature allows very small tin molecules to be deposited
- · Ideal for depositing resistant tin surfaces
- Available in 90g (1 litre) or 450g (5 litres) packs

• Sufficient to cover 0.6m ² or 2.7m ² of boards						
Туре	Order code	1+				
90g tin crystals (1 litre)	34-0775	24.76				
450g tin crystals (5 litres)	34-0776	56.10				
				029475		



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ype	Order code	1+	
0 pack A4 Laser film	39-0774	6.88	
.00 pack A4 Laser film	39-0776	62.87	
			029485

Etch Resist Pens

This etch resist pen from Staedtler is ideal for using on

plain copper boards. Producing a blue ink for preparation and artwork

- · Simply press the tip to promote ink flow
- Apply slow, even pressure in use

Order code	1+	
34-0300	1.25	
34-2951	1.25	
	34-0300 34-2951	34-0300 1.25 34-2951 1.25



Seno Polifix PCB Cleaning and **Polishing Block**

Specially formulated, ultra-fine nonmetallic polishing compound carried in an elastic bonding material.

- · Cleans, degreases and polishes in one simple action.
- · Simply polish back and forth in straight lines, then wip
- with a cloth to remove traces of the abrasive. Size 30 x 40 x 20mm

Туре	Order code	1+	
Polifix block	34-0295	3 32	

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Education

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FRAU 12-007

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