Prototyping & PCBs

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PCB Prototyping

Rapid

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
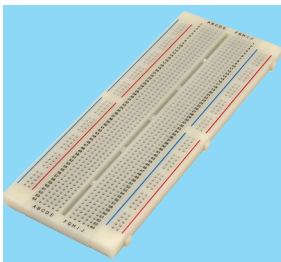- An ideal introduction to solderless circuit development systems

Type	Order code	1+	10+	50+	100+
Protobloc 1	34-0650	4.73	4.09	3.73	3.47

029458

Rapid

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 interconnected 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

Type	Order code	1+	10+	50+	100+
Protobloc 2	34-0655	7.91	6.68	6.17	5.84

029459

Rapid

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.
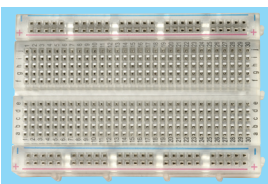
- Transparent Solderless Breadboard
- Solderless concept allows components to be used again and again
- Ideal system for teaching electronic systems and circuit design
- Components are plugged into the board and are retained by double-leaf phosphor bronze nickel-plated spring contacts
- Sockets are on 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

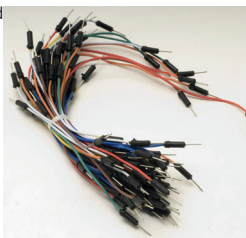*These boards can be slotted together for larger circuits but do not physically fit with Protoblocs.*

Type	Order code	1+	10+	50+	100+
Transparent breadbord	34-0671	4.85	4.59	4.32	3.92

518906

Rapid

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**

Packs contain:

Length	Quantity	Length	Quantity
100mm	55	180mm	5
140mm	10	230mm	5

Type	Order code	1+
Breadboard jumpers	34-0673	4.53

518907

Order online
Save time, and place your order at:
www.rapidonline.com
24 hours a day

Rapid

Jumper Wire Kit

This **jumper wire kit** has been designed for use with protobloc prototyping boards has a variety of colours for easy identification and comes in a wide range of sizes.

- Convenient hinged plastic storage case
- 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

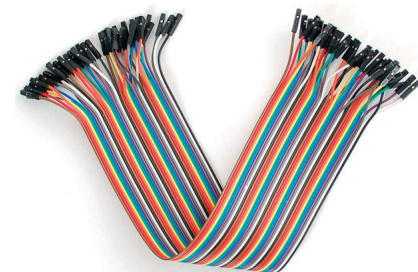**Set includes 25 each of the following lengths**:
0.1in (no insulation), 0.2in, 0.3in, 0.4in, 0.5in, 0.6in, 0.7in, 0.8in, 0.9in, 1in, 2in, 3in, 4in and 5in.

Type	Order code	1+	10+
Jumper wire kit	34-0495	14.15	12.80

029452

Rapid

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

Type	Order code	1+	10+	100+
F to F	34-0684	5.64	4.75	4.32
M to F	34-0686	5.64	4.75	4.32
M to M	34-0688	5.64	4.75	4.32

564327

Rapid

Copper Track Cutter for Stripboard and Prototype Boards

This simple tool is ideal for easy copper track cutting on stripboards and prototyping boards. Simply insert the tool in a hole at the point where the break is required and twist clockwise.

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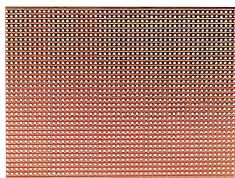- Bit size 3.5mm
- Overall length 115mm

Type	Order code	1+	10+	50+
Stripboard cutter	34-0608	4.36	3.86	3.32

550885

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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 specification

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

MOQ 5

Board Size (mm)	Order code	5+	10+	50+	100+
25 x 64	34-0500	0.393	0.351	0.308	0.234

Price each

Board Size (mm)	Order code	1+	10+	50+	100+
64 x 95	34-0505	1.13	1.04	0.921	0.761
95 x 127	34-0515	2.08	1.81	1.74	1.46
95 x 432	34-0535	7.70	6.56	6.05	5.17
119 x 455	34-0540	9.06	8.24	7.97	7.26

029453

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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

Type	Order code	1+	20+	50+
Eurocard size - single sided				
100x160	34-0800	1.36	1.05	0.92
233.4x160	34-0805	2.67	2.29	2.08
100x220	34-0810	1.76	1.48	1.27
233.4x220	34-0815	4.73	4.13	
Double sided				
100x160	34-0820	1.43	1.11	0.959
233.4x160	34-0825	2.77	2.43	
100x220	34-0830	1.52	1.31	1.20
233.4x220	34-0835	3.94	3.46	
Other sizes - single sided				
203x95	34-0360	1.43	1.23	
203x305	34-0365	4.20	3.63	3.33
Double sided				
203x305	34-0845	5.81	5.28	4.59

029478

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Low Cost Copper-Clad SRBP Circuit Board

Single-sided copper-clad 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

Type	Order code	1+	10+	50+	100+
100 x 160	34-0860	0.937	0.811	0.782	0.721
100 x 220	34-0862	1.41	1.29	1.20	1.13
233 x 160	34-0864	2.07	1.49	1.29	
233 x 220	34-0866	2.88	2.34	2.18	1.93
203 x 305	34-0868	3.41	2.46	2.14	1.98

032634

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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**.
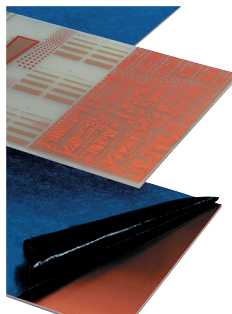
Microtrak laminates consist of **FR4 epoxy-glass laminate** sheets, dip-coated with a **positive working photo-resist**. The photo-resist contains a dye that provides a **good contrast** against the copper and allows boards to be easily inspected at the developing stage. Boards are protected by a specially 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 crystals

Size	Order code	1+	5+	10+
Single sided				
160 x 100mm	34-1500	4.18	3.69	3.45
203 x 114mm	34-1502	5.50	4.97	4.72
220 x 100mm	34-1504	5.17	4.64	4.05
233.4 x 160mm	34-1508	8.41	7.52	6.95
233.4 x 220mm	34-1506	9.00	8.03	7.06
457 x 305mm	34-1510	26.83	24.86	22.54
Double sided				
160 x 100mm	34-1512	5.05	4.50	4.01
203 x 114mm	34-1514	7.18	6.63	
220 x 100mm	34-1516	6.24	5.68	
233.4 x 160mm	34-1520	9.21	7.71	
233.4 x 220mm	34-1518	9.42	8.51	
457 x 305mm	34-1522	31.82	28.38	26.11

560428

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MEGA Electronics

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.
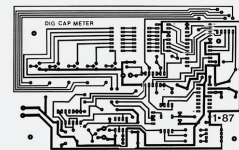
- Supplied in **packs of 10** or **100** A4 sheets of film

Type	Order code	1+
10 pack A4 Laser film	39-0774	7.23
100 pack A4 Laser film	39-0776	66.02

029485

STAEDTLER

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

Colour	Order code	1+
Blue	34-0300	1.39
Black	34-2951	1.32

029444

MEGA Electronics

Seno Polifix PCB Cleaning and Polishing Block

Specially formulated, ultra-fine non-metallic 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 wipe with a cloth to remove traces of the abrasive.
- Size 30 x 40 x 20mm

Type	Order code	1+
Polifix block	34-0295	3.49

029443

FORTEX

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

Type	Order code	1+	3+
Ferric chloride 5L	34-0758	16.37	15.28

061309

≡Rapid

Digital Lab IDL-800A

This comprehensive digital electronics training system contains a wealth of equipment and features. The training system contains all the peripherals needed to support your circuit design. Components can be connected without soldering, by simply inserting them into the breadboard. Your circuit can then be powered by the internal power supplies, signals applied from the function generator and monitored on the built-in test equipment and displays.

Includes:
- Solderless breadboard with 1896 connection points
- 3 Fixed and variable DC power supplies
- Function generator producing sine, triangle and square waves plus TTL output
- Timer/counter measuring frequency and time with digital display
- 3.5 digit LED digital multimeter
- Eight bit data switches
- Loudspeaker 8Ω 2.25in. dia.
- 8 buffered LEDs
- 2 LED displays
- 2 function switches
- 2 pulse switches
- Dimensions: 480 x 360 x 200mm (L x W x H)
- Weight 4.2kg
- **Type IDL-800A**

Type	Order code	1+
Digital Lab	**34-0937**	425.78

517709

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Logic Trainer

All the equipment you need to learn about logic in one comprehensive package.

- Basic logic gates – AND, OR, NAND, NOR, OR and NOT
- DC power supply +5V, -5V and ±15V
- Pulse generator
- Debounced logic switches
- Eight LED indicators
- Solderless breadboard with 1,896 tie points
- Console style case
- Complete with UK power lead and manual

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e d u c a t i o n

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Technical specification

HI voltage level	<2.25V	
LO voltage level	<0.8V	
5V supply	5V±5%	Max. current 1A
-5V supply	–5V±5%	Max. current 500mA
±15V supply	±15V±5%	Max. current 500mA
Pulse generator	Output voltage 5V	1s, 0.1s and 0.01s pulse width
LEDs	<15V DC	
Breadboard	Takes all DIP sizes	0.3 to 0.8mm wire
Dimensions	420 x 360 x 200mm	
Weight	4.2kg	

| Type	Order code	1+
Logic trainer	**34-0932**	232.66

074731

FORTEX

PCB Shears

Powerful, cost effective shears which have the ability to accurately cut PCB laminates, plastics up to 2mm thick and aluminium up to 1.5mm.

- Access to the cutting area is prevented by heavy Perspex shielding extending along both sides of the blade
- A safety latch is fitted to the pivot to prevent accidental operation
- For positional accuracy the cutting bed is fitted with a metric rule which is recessed to assist in securing the PCB or sheeting whilst cutting
- The 200mm unit has a cutting capacity of 203mm (8in.) for normal 1.6mm PCB laminate and is extremely compact with an overall height of only 575mm and a base of 275 x 140mm
- The 300mm shear will cut 1.6mm PCB laminates up to 305mm (12in.) wide and has a height of 670mm and a base of 430 x 135mm

Type	Order code	1+
200mm PCB shear	**34-0950**	239.90
300mm PCB shear	**34-0955**	338.52

032578

pb fastener & components

Glass Fibre Cleaning Pen and Replacement Brush
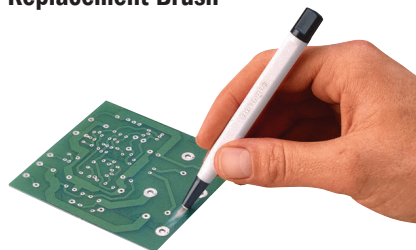
This **Glass Fibre Cleaning Pen** from **PB Fastener & Components** is a versatile instrument that has a number of uses - it can be used for cleaning connection areas on circuit boards and cleaning contacts of all kinds, erasing

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ink and pencil marks on transparent paper, while removing residues of drawing ink on metal templates. Replacement brush available.

- Manufacturer's part **1152 008**

		Price each	
Type	Order code	1+	10+
Pen	**49-0595**	8.57	7.88
		MOQ 5	
Type	Order code	5+	10+
Brush	**49-0596**	0.954	0.799

530612

*Light*Craft

A3/A4 LED Lightboxes with Plug

These **LED lightboxes** from **Lightcraft** are energy efficient and feature a dimmer. Equipped with a host of other excellent features, including the consistent light across the whole panel face, tracing area and low heat emission. Ideal for tracing designs and patterns for stencilling, embossing, scrap-booking, quilting, sewing, embroidery, calligraphy, lettering and displaying slides and transparencies. Included is a 2m USB cable for use through PC/laptop, plus a mains UK/EU plug with USB slot.

- Voltages available: 220-240V,50hz
- Output voltage: 5V,7W
- Colour temperature: 6000-6500 kelvin
- Input: AC100-240V, 50-60Hz
- Available in both **A3 and A4 sizes**

Size	Order code	1+
A4	**34-0646**	68.08
A3	**34-0648**	119.46

559688

TOOLCRAFT

PCB Holder
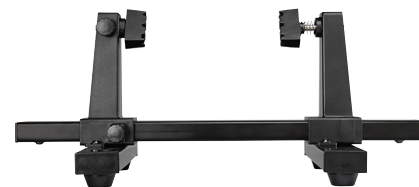
Easily adjustable **circuit board holder** from **Toolcraft.** The angle can be set according to the board in use.

- Clamping width 220mm
- Height 125mm
- Length 165mm
- Width 330mm

Type	Order code	1+
PCB holder	**64-5426**	6.38

566712

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