Rapid

e d u c a t i o n

Design & Technology Essentials!

We bring STEM to life

MORE THAN JUST A ROBOT

fun robotics for tomorrow's inventors!

Edison

Engage your students with Edison, the programmable robot

Edison is a complete STEM teaching resource for coding and robotics education for students in **Keystage 2 and 3**.

Easy-to-use with no coding experience required, Edison offers unparalleled value-for-money and is supported by free downloadable lesson plans and activities.

Edison has built-in sensors, lights and sound so that you can concentrate on programming.

Edison can:
• Respond to light and sound
• Follow lines and avoid obstacles
• Read pre-set barcode programs
• Communicate with other Edison robots
• And so much more!

£34.99
Order code 70-6555

Programming Edison

Create and run your own programs for Edison using our free browser-based or downloadable applications. The unique way that Edison transfers data to the robot using sound output means that almost any device with a standard headphone jack can be used – PC, Mac, Chromebook, iPad, Android and Raspberry Pi are all supported.

Edison can be programmed using EdWare, a graphical drag-and-drop language or EdPy which is based on the popular Python text-based language

Works with LEGO bricks

LEGO bricks can be connected to the top, bottom and sides of Edison as well as to the wheels allowing you to build your own designs on the base robot. You can even use LEGO bricks to connect two or more Edison robots together!

Each Edison is supplied with an EdComm download cable for use with PC, Mac, Chromebook, iPad, Android or Raspberry Pi. 4x AAA batteries are required (not included)

LEGO is a trade mark of the LEGO Group, which does not sponsor, authorize or endorse the Edison robot or accessories

OZOBOT

Ozobot 2.0 Bit Robots

Expand your child's horizons with the help of Ozobot Bit, the tiny smart robot.

There's no end to the possibilities, as your child creates a different landscape of adventures, games and coding with Ozobot Bit. Imagine, a learning toy that opens the doors of computer science, STEM Education, robotics and coding, putting your child one step ahead of the learning curve in school and in life.

Starting with colour markers, Ozobot takes kids on a fun and mesmerising experience through creative drawing, problem solving and group challenges using colour code commands in the form of basic colour combinations.

Ozobot Bit's ability to learn your programs, and then play them back is a big game changer to how young minds play and learn. OzoBlockly - a web-based visual editor - offers five step-up modes from icon-based to loops, logic and equation blocks to appeal to young kids and even to challenge the seasoned programmer.

Ozobot Bit is a multi-award winning toy robot including 2015 Kapi's Best Robot toy, 2015 Toy of the Year (TOTY) finalist and CES 2015 Editor's Choice award winner.

Ozobot Bit is available in Crystal White or Titanium Black.

- **Ozobot Bit is supplied with:**
- 1x custom skin
- 1x carrying case
- 1x USB charging cable
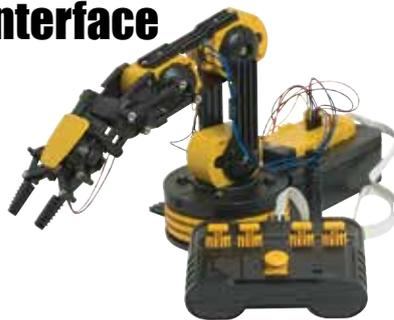- A demo playground
- Quick Guide instruction booklet

For drawing courses, we recommend Pentel Arts Sign Pen fibre-tipped pens due to their intensity of colour. Please see order code 70-8205 for details.

Crystal white Order code **70-8200**	**£32.99**
Titanium black Order code **70-8201**	**£32.99**

≡RVFM

Robotic Arm and Optional USB PC Interface

This Robot Arm helps you get to grips, literally, with the basics of robotic technology. Following the detailed instructions, you can build your own wire-controlled Robot Arm, and control its movements via the remote control box. Alternatively, you can operate the Robot Arm from your PC by installing the optional USB Interface Kit (sold separately). The robot has 5 motors and 5 joints and features base rotation, elbow and wrist motion and a gripping function. A built-in searchlight means you can even operate the Robot Arm in the dark.

- Educational kit includes all necessary parts (except tools)
- Supplied complete with wired hand controller
- Add the optional USB interface and software (sold separately) to control your robotic arm from your PC
- No soldering required
- Maximum lift 100g
- Dimensions 37.5 x 16.1 x 23cm
- Weight 658g
- Requires 4x D batteries (not supplied)
- Optional USB Interface Kit is compatible with Windows Vista, Windows® XP and Windows® 7

Not suitable for children under 5 due to inclusion of small parts

Robotic arm Order code **06-9349**	**£23.61**
USB interface Order code **06-9350**	**£13.95**

Makeblock
Construct Your Dreams

mBot V1.1 Blue Bluetooth Enabled STEM Robot Kit

Order code **75-0702**
£66.62

The mBot with Bluetooth from Makeblock is the perfect introduction to robotics for STEM or personal use. It is based around the mCore programmable module with Arduino UNO compatibility which brings with it excellent online educational and tutorial resources. The mCore has a wide range of programming options from novice to expert using free Open Source tools including mBlock, a graphical Scratch-like programming tool, all the way up to C/C++ using the Arduino development tools. You will be able to use the kit's range of sensors including an ultrasonic range finder, LED line follower, and light sensor. It also has a buzzer and an RGB LED so your creation can flash and bleep messages to you. Finally, there's an infrared receiver and transmitter that you can use to control the bot using the remote control included in the kit (requires 1 x CR2025 coin cell, not supplied). The infrared can even be used to talk between mBots if you are feeling ambitious.

- Simple to build and program
- Range of free programming tools from beginner to advanced
- Ideal for STEM applications
- Drive the mBot from your smartphone
- Complete kit, just add batteries
- Bluetooth v4.0 or better is required for PC or Mac connectivity
- Dimensions 170 x 90 x 90mm assembled
- Weighs 340g

mBot Ranger Arduino Compatible STEM 3-in-1 Robot Kit

The **mBot Ranger 3 in 1 from Makeblock** is an intermediate robotics kit for STEM or personal use. It is based around the Me Auriga programmable module with Arduino Mega 2560 compatibility which brings with it excellent online educational and tutorial resources. The Me Auriga has a wide range of programming options from novice to expert using free Open Source tools including mBlock, a graphical Scratch-like programming tool, all the way up to C/C++ using the Arduino development tools. You will be able use the kit's range of sensors including an ultrasonic range finder, LED line follower, microphone, temperature sensor, light sensor and a 6-axis accelerometer/gyroscope. It also has a buzzer and 12 x RGB LEDs so your creation can flash and bleep messages to you.

- Build 3 x different robots from one kit
- Simple to build and program
- Range of free programming tools from beginner to advanced
- Ideal for STEM applications
- Drive the mBot Ranger from your smartphone
- Complete kit, just add batteries
- Bluetooth v4.0 or better is required for PC or Mac connectivity

Order code **75-0699**	**£124.95**

seeed studio

Hexapod Arduino Powered Robotics Kit

The **Hexy Hexapod from Seeed Studio** includes everything you need to build your own 6-legged robot, there's even a spare leg! The legs are fully articulated with 3 x servos each (18 servos) and Hexy is 305mm wide by 178mm long depending on how you pose it. In front it has a servo-mounted ultrasonic distance sensor to avoid collisions and scan its environment. An Arduino based Servotor32 robot controller is part of the kit which is capable of controlling 32 servos. With so much articulation Hexy is capable of a very wide range of movements, walking, dancing, waving and everything in between. Open source software is available for download to manage the Servotor32 board and many examples of how to use it are available online. There's also the PoMoCo software (Position Motion Controller) which simplifies scripting of movements for Hexy; available to download from Github.

- Arduino compatible microcontroller included
- Bluetooth module for remote control
- Ultrasonic distance sensor
- Hexy is 305mm wide by 178mm long
- Weight 1.5kg

Order code **75-0409**
£225.00

4WD Mecanum Wheel Robot Kit

Includes Motors, Mounts & Fixings

The **4WD Mecanum Wheel Robot Kit from Seeed Studio** builds into a robot base that your microcontroller (MCU) can drive forwards, backwards, sideways and can rotate on the spot. Add an MCU and motor drivers then watch this wheeled robot drive sideways, 45 degrees or any other angle. By careful arrangement of the clever Mecanum wheels you get complete control of the direction of travel. The kit has two decks, you could hide the basic electronics and batteries on one and use the other for sensors, displays and controls. This compact, rugged robot platform is even capable of carrying up to 10kg, definitely not a toy!

- Moves in any horizontal direction
- Motors are geared 1:35, 310rpm
- Dimensions: 250 x 145 x 97mm

| Order code **75-0402** |
|---|
| **£133.85** |

BBC micro:bit

Pocket Sized Codeable Computer Starter Kit

Our complete micro:bit package contains everything you need including the micro:bit itself, USB download cable, battery box and batteries. Unlike the original batch of micro:bits, our kit is supplied with our switched battery holder which means you don't need to remove a battery or disconnect the plug when you want to cut the power.

- **Kit includes**:
- 1x micro:bit board
- 1x USB download cable
- 1x switched battery box
- 2x AAA batteries

Starter kit
Order code **75-0116**   **£12.50**

4tronix
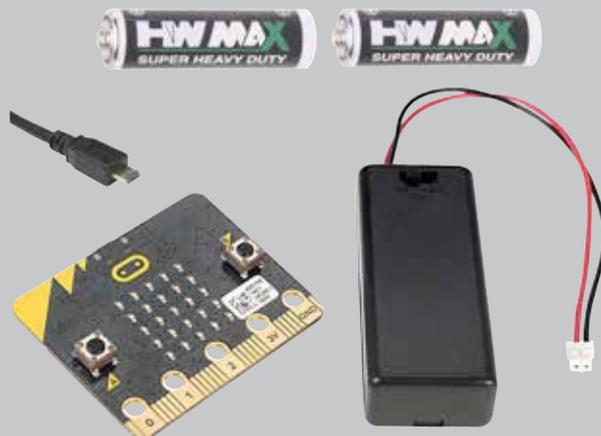
Bit:Bot Robot for BBC micro:bit/ Ultrasonic Distance Sensors

The **Bit:Bot** Robot is a feature-packed little robot that is almost ready to go, requiring no soldering, no wires and nothing more than a screwdriver to complete it.

The Bit:Bot turns your micro:bit from a stand-alone programmable computer to an awesome mobile robot allowing you to explore and code the **BBC micro:bit** using any of the languages available.

The Bit:Bot is powered by 3x AA batteries which are also used to power your micro:bit so the original micro:bit battery holder is not needed. The micro:bit itself is easily plugged in and removed using the edge connector on the top of the robot.

Two versions of the optional Ultrasonic Distance Sensor are available. The removable version unplugs easily from its socket to aid access to the micro:bit download port. The soldered version is more stable and robust, but you may need a right-angled USB download cable to download a program with the sensor in situ.

Batteries and micro:bit sold separately

Bit:Bot Robot
Order code **75-0117**
£29.75

Soldered ultrasonic
Order code **75-0119** **£3.00**

Socketed ultrasonic
Order code **75-0121** **£3.00**

4tronix

Robo:Bit for BBC micro:bit and Accessories

If you have a **BBC micro:bit** then you should get the Robo:Bit buggy. Using the basic kit, you can learn about controlling motors and use the accelerometers or compass on the micro:bit to aid navigation and collision detection. You can also make a very cool remote control robot by using another micro:bit and the radio function.

The **Robo:Bit buggy** can be assembled very quickly using only a screwdriver. No soldering is required making it a great beginners kit and the chunky wheels and powerful motors mean it works well on any surface.

There are also available a number of optional accessories to make the Robo:Bit buggy even more versatile:

The **Ultrasonic Distance Sensor** (75-0129) lets the robot detect objects before it collides with them allowing you to program it to avoid them. It can also be used to create a 'follow me' program where the robot tries to stay a certain distance from the object in front of it.

The **Line Follower Sensor Pack** (75-0127) uses two line sensors to follow a black line and keep the buggy on track. You can write more complex programs that behave as required when you meet a T-junction or crossroads.

We all like adding blinky LEDs to our electronic creations, whether it is a robot, weather station or something that reads and displays sensor data. Now with **McRoboFace** (75-0139) you can add emotions to everything at the same time as adding blinkies.

All the 17 RGB LEDs are fully addressable and can be controlled by most processors in the field using standard 'neopixel' code. This includes Raspberry Pi, Crumble, Arduino, ESP8266, micro:bit and Codebug.

The **Robo:Bit** robotics controller (75-0133) is a ready-assembled robotics controller board that's ready to be used with your **BBC micro:bit**, just add battery power (3 or 4 AA is ideal, but not included) and motors of your choice to make your own DIY robot. Use a small box, ice-cream carton or similar to house everything and you can build a really affordable robot for your school, coding club or home.

Robo:Bit has been cleverly designed so that with a few hexagonal pillars and screws, you can fit the motors, battery box, front casters, line following sensors and even ultrasonic distance sensors and have a very neat and simple robot!

Robo:Bit uses the ever popular DRV8833 motor driver which allows you to use most small motors that operate in the 3 to 6V range.

Connections are provided for lots of the BBC micro:bit pins, and all have immediate 3-pin access to power (3.3V) and ground. There are three separate pins for 5V if you need the extra voltage (but don't feed back 5V to the micro:bit as it won't like it!). This is the GVS (Ground, Volts, Signal) system for sensors and servos etc.

On the left side of the board (the 'front' of the robot) is a set of 4 offset holes into which you can simply poke an HC-SR04 ultrasonic distance sensor. The offset holes and gold plating ensure a good connection, but you can also solder it in permanently for added robustness.

The Robo:Bit fixings pack (75-0136) contains screws, hexagonal pillars and a Pololu caster. This allows you to fit standard yellow motors (not included) and immediately get a robot working.

- Have fun and learn robotics at the same time
- Quick to assemble with just a screwdriver
- Chunky wheels and powerful motor
- Ideal for many projects

Type	Order code	1+
Robo:Bit Buggy	75-0123	£22.00
Distance sensor	75-0129	£1.95
Line sensor	75-0127	£5.00
McRoboFace	75-0139	£7.00
Controller board	75-0133	£10.00
Robo:bit fixings pack	75-0136	£4.00

565005

≡RVFM
Tower Pro SG90 Mini Servo

The Tower Pro SG90 Mini Servo is a low-cost, well specified servo ideal for use in radio-controlled models and for interfacing with microcontroller systems like Arduino, Raspberry Pi, PICAXE, etc.

- Size: 23 x 12.2 x 29mm
- Low-cost, high quality
- Supplied complete with control horns and mounting screws
- Tower Pro type SG90

Technical specification

Dimensions	23 x 12.2 x 29mm
Operating voltage	4.8V
Stall torque	1.8kg/cm (4.8V)
Operating speed	0.1s / 60° (4.8V)
Dead band width	10µs
Temperature range	0 to 55°C
Weight	9g

Type	Order code	1+	25+	50+
Mini servo	37-1330	£2.79	£2.56	£2.31

530144

MODELCRAFT
Plastic Gear JR Standard Servo Analogue Servo

The Modelcraft BMS-410C Standard Servo is not only economical, but ideal for many applications in **Radio Control** modelling owing to its **standard dimensions**. It is also compatible with microcontroller systems such as PICAXE, Arduino and Raspberry Pi.

- Standard dimensions
- Includes control horn and screw
- Modelcraft type BMS-410C

Technical specification

Manufacturer part No.	BMS-410C
Servo type	Standard servo
Connector system	JR
Gears	Plastic
Servo technology	Analogue servo
Servo time 6V/7.4V	0.15sec/ 60°
Servo time at 4.8 V	0.17sec/ 60°
Servo time at 6 V	0.15sec/ 60°
Servo torque at 4.8 V	35Ncm
Servo torque at 6/ 7.4 V	44Ncm
Servo torque at 6 V	44Ncm
Stroke time at 4.8 V	0.17sec/ 60°/0.15sec/60°
Length	40.5mm
Width	20mm
Weight	38g

Order code	
49-9395	**£5.12**

≡FEETECH
Analog Micro Servo Continuous Rotation

The **FS90R** is an analog micro servo that is capable of continuous rotation clockwise or anti-clockwise, as opposed to moving to a set position. The servo is ideal for the beginning roboticist and is perfect for use with the Motor Shield for **Arduino**. The servo can be controlled using any servo code, hardware or library and to control with an Arduino, just connect the orange control wire to pin 9 or 10 and use the Servo library included with the Arduino IDE.

Also available is a wheel (**37-1338**) that can be attached directly to the servo. The servo and wheel are also available as a package (**37-1336**).

- Good for making simple moving robots
- Small dimensions means servo can fit in confined spaces
- Lightweight
- Operating voltage 4.8 to 6V
- A 3-pin 10cm cable is available for connecting servos (**37-1337**)

Technical specification

Dimensions	23.2 x 12.5 x 22mm
Weight	9g
Operating speed	110 rpm @ 4.8V, 130 rpm @ 6V
Stall torque	1.3kg.cm @ 4.8V, 1.5kg.cm @ 6V
Operating voltage	4.8 to 6V
Direction	CCW
Operating angle	Continuous rotation
Required pulse	900 to 2100µs
Connector wire length	20cm

Type	Order code	1+
FS90R 360° Servo	37-1335	£4.07
Servo and wheel	37-1336	£5.10
Wheel for servo	37-1338	£1.24

559636

≡RVFM
Self Adhesive Motor Mount

A push fit motor mount to suit our range of miniature motors.

- Base has self adhesive surface for easy mounting of the motor as required
- Colour may vary
- Supplied in **packs of 10**

Type	Order code	1+	10+
Motor mount	37-0360	£3.00	£2.54

064468

TruMotion
Miniature Low Inertia Solar Motor 2V 1540 RPM

- Direction: Clockwise
- Constant volts: 2.0V
- No load speed rpm: 2200
- No load current (A): 0.025
- Max efficiency speed (rpm): 1540
- Max efficiency current (A): 0.06
- Torque g-cm: 5.5
- Output watts:0.05
- Stall torque g-cm:11
- Diameter:24mm
- Weight:21g

Type	Order code	1+	25+	100+
Mini solar motor	37-0441	£1.58	£1.31	£1.14

178010

TruMotion
3V, 13100 RPM DC Motor

A low-cost miniature DC motor with many applications including models, robotics and educational demonstration equipment.

- Operating voltage 1.5 to 4.5V DC
- Two flat sides make the motor ideal for mounting on a PCB
- Rotates counter-clockwise when viewed from shaft end
- Solder tag termination

Technical specification

Rated voltage	3V DC
No load current	0.34A max.
No load speed	16,400rpm ± 15%
Rated load	8.0 g.cm
Rated load current	1.07A max.
Rated load speed	13,100rpm ± 12%
Length excluding shaft	25mm
Diameter	20mm
Width across flats	15.1mm
Shaft length	9.4mm
Shaft diameter	2mm
Weight	17g approx.

MOQ 2

Type	Order code	2+	25+	100+
3V, 13,100 rpm	37-0140	£0.495	£0.389	£0.29

061539

TruMotion
Miniature Motor 3V 5240rpm

A low-cost miniature motor offering a higher stall torque.

- Ideal for models, robotics, etc.
- Operating voltage 1.5 to 4.5V DC
- Rotates clockwise when viewed from shaft end
- Solder tag termination

Technical specification

Rated voltage	3V DC
No load current	0.13A max.
No load speed	6700rpm ±15%
Rated load	10.0 g.cm
Rated load current	0.45A max.
Rated load speed	5240rpm ±12%
Length excluding shaft	26.9mm
Diameter	23.8mm
Shaft length	8.6mm
Shaft diameter	2mm
Weight	28g approx.

Type	Order code	1+	25+	100+
3V, 5240 rpm	37-0142	£0.686	£0.513	£0.469

061541

TruMotion
Miniature Motor 3V 8000rpm

A high torque miniature DC motor for higher power requirements.

- Operating voltage 1.5 to 6.0V DC
- Rotates clockwise when viewed from shaft end
- Solder tag termination

Technical specification

Rated voltage	3V DC
No load current	0.23A max.
No load speed	9000rpm ±15%
Rated load	10.0 g.cm
Rated load current	0.63A max.
Rated load speed	8000rpm ±12%
Length excluding shaft	30.5mm
Diameter	24.2mm
Shaft length	12mm
Shaft diameter	2mm
Weight	42g approx.

Type	Order code	1+	25+	100+
3V, 8000 rpm	37-0144	£0.712	£0.564	£0.488

061542

Free Delivery*
on all orders over £30 (excl. VAT)
(UK mainland only)
* See Terms & Conditions for full details

Education

Systems & Control

≡RVFM
Card and MDF Wheel Packs

Model wheels made from 2mm thick card or 6mm thick MDF in a range of diameters.

- Hole diameter 4mm, except for **37-0421** and **37-0422** which are 5mm
- Supplied in **packs of 100**

Diameter	Hole size	Order code	1+
Card Wheels			
30mm	4mm	52-2021	£1.72
40mm	4mm	06-0709	£2.61
50mm	4mm	06-0711	£2.89
60mm	4mm	52-2023	£5.02
MDF wheels			
25mm	4mm	52-2017	£2.61
40mm	4mm	06-0713	£6.28
50mm	4mm	06-0715	£9.02
54mm	5mm	37-0421	£9.40
70mm	4mm	37-0417	£11.01
74mm	5mm	37-0422	£11.01

071243

≡RVFM
120:1 Inline Motor and Gearbox

This economy motorised gearbox is fitted with a 3 to 12V DC motor. The output shaft is 5.5mm diameter and 9mm long with 2 flats. Ratios of 1:120 give final speeds of between 70-140rpm depending on voltage used.

- Smooth running
- 3x mounting holes
- Ideal for small educational projects including fairgrounds and robots
- No load current: 70 – 130mA
- Under load at 6.0V: Motor output turning power is 1.8kgf.cm
- Dimensions 7(L) x 2(W) excluding shaft x 2(W)cm
- Weight: 30g

Type	Order code	1+	25+	100+
Motor and gearbox	37-1217	£2.20	£1.90	£1.60

081728

≡RVFM
Medium Polythene Wheels

39mm diameter polythene wheels ideal for heavier duty modelling applications.

- 3mm interference fit centre hole
- Colours may vary
- Supplied in **packs of 50**

For spiked rubber tyres see order codes **06-0654** *and* **06-0656**.

Order code	
37-2228	£9.92

≡RVFM
Solar Motor Drive

A miniature gearbox and solar motor which provides a gear ratio of 27:1 providing approximately 25 revs. per minute at 0.5 volts.

- Final output via 2mm shaft
- Motor operating range 1.5 to 4.5V
- Gearbox dimensions 36 x 15mm

Order code	
37-0443	£5.00

≡RVFM
Model Wheels

Model wheels moulded in robust ABS material with 2.6mm diameter bores.

- Supplied in **packs of 4**

Wheel size	Order code	1+	10+	25+
37 x 16mm	37-1310	£1.58	£1.37	£1.32
44 x 16mm	37-1315	£1.95	£1.59	£1.37
56 x 16mm	37-1320	£3.11	£2.66	£2.37

031305

≡RVFM
Steel Shafts

Steel shafts for use with miniature gears, wheels, motors, etc.

- 2 or 3mm diameter
- Can be easily cut with a hacksaw

Pack size	Shaft size	Order code	1+	10+
Pk of 50	75 x 2mm dia.	37-0350	£1.49	£1.28
Pk of 50	75 x 3mm dia.	37-0352	£2.11	£1.77
Pk of 25	120 x 3mm dia.	37-0354	£1.54	£1.33

064475

≡RVFM
Off-centre Mass Wheels

These small plastic mouldings fit directly onto 2mm motor spindles, providing imbalance that is required for vibrating mechanisms.

- Ideal for use in building vibrating 'bugs' and robotics
- Obviate the need to apply any adhesive to ordinary wheels
- Approx. dimensions: 8mm thick x 20mm diameter

Motor not included. Suitable motors are available separately.

Order code	MOQ 5	
06-0698		£0.221

≡Rapid
…where price meets quality

≡RVFM
Miniature Pulleys

Miniature pulleys which will push-fit on to 2mm shafts, commonly found on miniature motors.

- Manufactured in high-impact polystyrene
- All sizes include motor spindle stand-offs
- Diameter quoted is nominal overall diameter
- All sizes have 2mm bore
- Supplied in **packs of 10**

Diameter	Order code	1+
8mm	37-0371	£1.42
10mm	37-0373	£1.56
12mm	37-0376	£2.05
18mm	37-0378	£2.30
25mm	37-0381	£2.71
30mm	37-0383	£2.61

300352

≡RVFM
Propellers

An essential resource for your Design & Technology classroom, these plastic propellers come in 2 different styles.

- Fit onto 2mm diameter spindles
- 2-blade: 150mm diameter
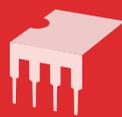- 3-blade: 125mm diameter

MOQ 2

Type	Order code	2+
2-blade 150mm	06-0627	£0.683
3-blade 125mm	06-0629	£0.473

300338

FREE DESIGN & TECHNOLOGY & SCIENCE POSTERS
Email education@rapidonline.com for your pack

PICAXE

Chips
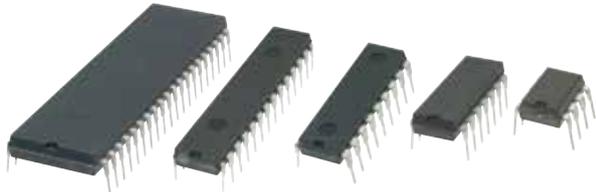
PICAXE is a microcontroller system that uses low cost FLASH memory based microcontrollers with a unique, pre-programmed **PICAXE** bootstrap code. This gives a device that may be reprogrammed typically 100,000 times without the need for an expensive and complicated programmer. **PICAXE** is programmed using a simple BASIC language or via the **Logicator** flowcharting software. Windows, Mac and Linux are all supported by the free BASIC software which can be downloaded from www.picaxe.co.uk.

Programming is carried out via a simple USB (**13-0849**) or serial (**13-0847**) cable. In addition to the microcontroller chips, starter, tutorial, and upgrade kits are available to provide a complete **PICAXE** solution. **PICAXE** microcontroller chips are available in 8, 14, 18, 20, 28 and 40-pin versions, giving a choice of the number of input and output lines, and also in several variants which offer differing amounts of memory and extra features so a choice can be made according to project need.

- Suitable for education, industry and hobbyists
- Low cost and simple to use
- Wide range of variants
- Can be programmed using an intuitive graphical flowchart
- Free, easy to use Programming Editor software

NOTE: See also the **PICAXE X2** chips section for the **X2** variant **PICAXE** chips.

Technical specification

PICAXE	Pins	Variant	Lines of memory	Total I/O pins	No. of inputs	No. of outputs	ADC (L=low)	Order code
PICAXE-08M2	8	M2+	800-1800	5	1-4	1-4	3	**13-5022**
PICAXE-14M2	14	M2	800-1800	11	5	6	7	**13-5024**
PICAXE-18M2	18	M2+	600-1800	16	1-8	1-8	10	**13-5026**
PICAXE-20M2	20	M2	80-1800	18	8	8	11	**13-5028**
PICAXE-28X1	28	X1	1000-2200	22	0-12	9-17	4	**13-0862**
PICAXE-40X1	40	X1	1000-2200	33	8-20	9-17	7	**13-0864**

Variant feature highlights:

M2 variants
Infra red, servo and ring tone music features
Greater memory and RAM
Touch sensor support
Parallel task processing

X/X1 variants
Greater memory and RAM
Scratchpad RAM area
I²C, SPI, EUSART interfaces
Higher baud rate
Enhanced maths capabilities

Type	Order code	1+	25+	100+	250+
PICAXE-08M2	13-5022	£2.75	£2.64	£2.24	£2.09
PICAXE-14M2	13-5024	£3.46	£3.10	£3.00	£2.91
PICAXE-18M2	13-5026	£4.00	£3.74	£3.55	£3.29
PICAXE-20M2	13-5028	£3.64	£3.39	£3.30	
PICAXE-28X1	13-0862	£8.31	£8.11	£8.04	
PICAXE-40X1	13-0864	£8.50	£8.31	£8.21	

079671

USB Download Cable

The **PICAXE** USB download cable has been designed to facilitate the downloading of **PICAXE** programs into **PICAXE** chips. The cable connects via the USB port on the computer to a 3.5mm jack for connection to the **PICAXE**. Moulded into the body of the USB connector is a circuit board that contains a USB to serial convertor chip that ensures that the data transfer is via a 5V logic level serial connection.

- For use on computers without a serial port
- High quality connectors with 1.8m cable
- Can be used with any **PICAXE** chip or project board
- Compatible with any software application that supports the programming of **PICAXE** chips
- Software drivers for the cable assembly are downloadable for free from www.picaxe.co.uk
- Driver versions for Windows XP, XP (64-bit edition), 2003, 2000, ME, 98SE, Vista and Windows 7

Note: There is no operating system support for Windows 95 or NT.

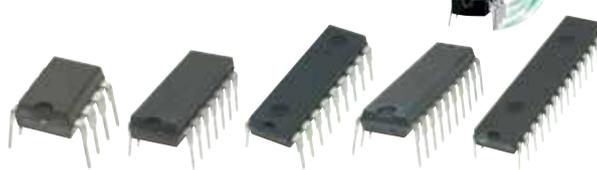| Type	Order code	1+	15+
PICAXE USB Cable	13-0849	£22.46	£20.46

077630

For full details and to see more
PICAXE products visit **www.rapidonline.com**

GENIE

Microcontrollers Version 1

GENIE is a low-cost microcontroller programming system designed exclusively for schools and colleges. The free, user-friendly flowchart software allows you to add intelligence and control to your new and existing design projects. No separate programmer is required and downloading is via a USB or serial cable.

The heart of the **GENIE** microcontroller system is the microcontoller IC, available in 8, 14, 18, 20 and 28-pin versions. It is possible to run multiple programs at the same time on a single chip and also to run and test programs live on a connected **GENIE** chip.

The chips are designed to work with the **GENIE** flowchart programming software for Microsoft Windows™ and there are free online resources and community website at www.genieonline.com.

- Developed by the authors of **Livewire, PCB Wizard** and **Circuit Wizard**
- Free, user-friendly **GENIE** flowchart programming software
- More memory means more commands and better programs
- On-screen monitoring and calibration of digital and analogue signals
- Polyphonic (multi-channel) music support
- Plug & play operation automatically detects a **GENIE** IC when it is connected
- Supports advanced I/O such as events, interrupts and infrared
- Also available is a plug & play USB download cable, which eliminates COM port problems

Note: The **GENIE Design Studio** software is free to download directly from www.genieonline.com. For convenience, **Rapid** can also supply this software on CD-ROM (see **13-6024**).

Technical specification

Device	Package	Pins	In	Out	ADC	Starts	Memory *	Order code
C08	DIL-8	8	1 - 4	1 - 4	3	2	160	**13-6001**
C14	DIL-14	14	5	6	2	2	160	**13-6002**
E18	DIL-18	18	5	9	3	4	2200	**13-6004**
C20	DIL-20	20	8	9	4	2	160	**13-6003**
E28	DIL-28	28	8	9	4	4	2200	**13-6005**

* Approx. no. of commands

Type	Package	Order code	1+	25+	100+
GENIE C08 IC	DIL-8	13-6001	£1.84	£1.76	£1.50
GENIE C14 IC	DIL-14	13-6002	£2.35	£2.10	£2.05
GENIE E18 IC	DIL-18	13-6004	£2.63		
GENIE C20 IC	DIL-20	13-6003	£2.77	£2.62	£2.44
GENIE E28 IC	DIL-28	13-6005	£4.99	£4.87	£4.82

082990

USB Download Cable

Buy USB Download Cable from Genie - a Plug & Play download cable that allows your computer to talk to a GENIE Microcontroller. The cable has a USB connector at one end and a 3.5mm stereo jack at the other.

- Plug & Play download cable
- Allows your computer to talk to a GENIE Microcontroller
- USB connector at one end and a 3.5mm stereo jack at the other
- Please see the PDF datasheet for step-by-step details of how to use this cable

Order code **13-6023**

£13.34

Serial LCD Kit

The **GENIE** Serial LCD module allows GENIE-based projects to display messages on a LCD. The kit includes full instructions on how to construct the LCD module and then explains how to connect to **GENIE** microcontrollers in order to output text and graphics.

- 16 character by 2 row liquid crystal display (LCD)
- Contrast dial for display
- All components included in kit
- A spare LCD control chip (**13-6036**) is also available separately
- Testing mode included
- Full and comprehensive instructions can be obtained here

Note: The **GENIE Design Studio** software is free to download directly from www.genieonline.com.

Type	Order code	1+	26+
GENIE Serial LCD kit	13-6026	£14.50	£11.15
LCD Control chip	13-6036	£3.00	

200110
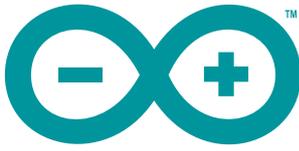
Starter Kit including Uno Board

Order code **73-4642**

£64.48

This starter kit serves as a hands-on introduction to the basics of the Arduino system. Using the accompanying 170-page project book and the comprehensive kit contents, you will learn to build useful, creative projects. Beginning with the basics of electronics and progressing to more complex projects, the kit will enable control of the physical world through sensors and actuators.

The contents of the Arduino starter kit is listed below:

Quantity	Description	Quantity	Description
1	Arduino projects book (170 pages)	1	Small DC motor 6/9V
1	Arduino UNO board Rev. 3	1	Small servo motor
1	USB cable	1	Piezo capsule [PKM17EPP-4001-B0]
1	Breadboard	1	H-bridge motor driver [L293D]
1	Easy-to-assemble wooden base	2	Optocouplers [4N35]
1	9V Battery snap	5	Transistor [BC547]
70	Solid core jumper wires	2	MOSFET transistors [IRF520]
2	Stranded jumper wires	5	Capacitors 100nF
6	Photoresistor [VT90N2 LDR]	3	Capacitors 100µF
3	Potentiometer 10kΩ	5	Capacitor 100pF
10	Pushbuttons	5	Diodes [1N4007]
1	Temperature sensor [TMP36]	3	Transparent gels (red, green, blue)
1	Tilt sensor	1	Male pins strip (40 x 1)
1	Alphanumeric LCD (16 x 2 characters)	20	Resistors 220Ω
1	LED (bright white)	5	Resistors 560Ω
1	LED (RGB)	5	Resistors 1kΩ
8	LEDs (red)	5	Resistors 4.7Ω
8	LEDs (green)	20	Resistors 10Ω
8	LEDs (yellow)	5	Resistors 1MΩ
3	LEDs (blue)	5	Resistors 10MΩ

The projects that are covered in this kit, using the accompanying book, are:

- GET TO KNOW YOUR TOOLS - an introduction to the concepts you'll need to use this kit
- SPACESHIP INTERFACE - design a control panel for your spaceship
- LOVE-O-METER - measure how hot-blooded you are
- COLOUR MIXING LAMP - produce any colour with a lamp that uses light as an input
- MOOD CUE - clue people in to how you're feeling
- LIGHT THEREMIN - create a musical instrument you play by waving your hands
- KEYBOARD INSTRUMENT - play music and make some noise with this keyboard
- DIGITAL HOURGLASS - a light-up hourglass that can stop you from working too much
- MOTORIZED PINWHEEL - a colour wheel that will have your head spinning
- ZOETROPE - create a mechanical animation you can play forward or reverse
- CRYSTAL BALL - a mystical tour to answer all of your tough questions
- KNOCK LOCK - tap out the secret code to open the door
- TOUCHY-FEEL LAMP - a lamp that responds to your touch
- TWEAK THE ARDUINO LOGO - control your personal computer from your Arduino
- HACKING BUTTONS - create a master control for all your devices!

For full details and to see more **Arduino products** visit **www.rapidonline.com**

## Kona328 Arduino UNO Compatible Development Board

The Orangepip Kona328 is an Arduino UNO compatible development board based around the ATmega328 microcontroller. The board features 14x digital I/O pins (six of which may be used as PWM outputs), 6 analog inputs and a 16MHz crystal oscillator. The board is simple to use, just requiring connection to a computer via USB to get started.

- 32KB FLASH memory
- 16MHz clock speed
- USB Port
- Power jack
- Can be powered by battery
- ICSP Header
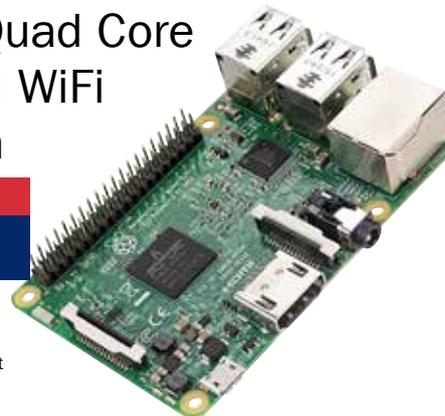- Reset button

Order code **75-0550**

£11.25
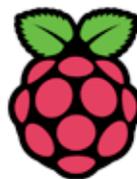
Raspberry Pi 3 Model B

1.2GHz Quad Core
1GB RAM WiFi
Bluetooth

Order code **75-0650**

£28.17

If your Internet connection was a bit slow on February 29th 2016 it was because the new **Raspberry Pi 3** went on sale. The Raspberry Pi Foundation has persuaded their chip supplier, Broadcom, to build them a new processor with a 64-bit Cortex A-52 quad-core CPU running at 1.2GHz. They've also increased the speed of the RAM and the video processor (GPU) while keeping full code compatibility with the Pi 2. The Pi 3 is a complete drop-in replacement for the Pi 2 in fact, it fits the same cases, has all the same ports and GPIO pins, only a few LEDs have moved.

Faster CPU, GPU and RAM. The CPU now runs at 1.2GHz (Pi 2 900MHz) and that is complimented by the 1Gbyte DDR2 RAM running at 900MHz (Pi 2 450MHz) and the faster VideoCore IV at 400MHz (Pi 2 250MHz). This combination can give you an **extra 50% throughput** compared to the Pi 2 or 10 x the throughput of the original Pi 1, depending on the application. As an example, the Pi 3 delivers 70 frames per second with Quake III Arena.

Wi-Fi and Bluetooth built-in. With the Wi-Fi 802.11n and Bluetooth 4.1 on-board you don't need separate USB dongles anymore which could give you 2 x USB ports back. It also means you don't have to buy the extra dongles making the Pi 3 more cost effective. The Bluetooth module is very interesting as it supports both **Bluetooth Classic** and **Bluetooth Low Energy**. Bluetooth Classic is there for compatibility with the huge numbers of Bluetooth devices available, whilst Bluetooth Low Energy is much simpler to write software for, opening the way to some exciting new applications.

Some things have stayed the same, it has 4 x USB 2.0 ports, a 10/100 ethernet port and the iconic 40-pin GPIO connector which is compatible with all Pi 2 and Pi B+ HATs and add-on boards. It also has the same camera interface (CSI), display interface (DSI) and 3.5mm audio-video jack as the Pi 2 and Pi B+. It does draw a bit more power than previous boards so you will definitely want a good 2A power supply.

New to the Raspberry Pi? It is a credit-card sized computer that has USB ports for devices such as a mouse and keyboard and an HDMI output for HDTVs. More than 8 million have been sold worldwide into education, to home users and even into industry. This gives the Raspberry Pi the backing of a very active community which is constantly producing tutorials, software examples and programs you can download from the Internet for free. There's also a huge range of add-on hardware available, from cameras to robotics and more, making it a fantastic base for electronic projects. The Raspberry Pi is also a capable computer that will perform many of the functions that a desktop PC will, like spreadsheets, word processing and games, it will also play high definition video. Join the millions of Raspberry Pi owners today!

- 50% performance boost over the Pi 2
- Built-in Wi-Fi 802.11n and Bluetooth 4.1
- Fully compatible with the Pi 2 and Pi B+
- Learn to code with free tutorials
- Learn electronics with hundreds of add-on boards
- Play retro-games on your HDTV (HDMI)
- 1Gbyte RAM, supports up to 32Gbyte micro-SD cards
- 4 x USB 2.0 ports, 10/100 ethernet port
- Require 5V micro-USB power supply

Plugtop PSU for Raspberry Pi 3 2.5A 5.1V

This plugtop power supply can supply the **Raspberry Pi 3** with 2.5A it requires for operation. The PSU features a universal voltage input and a long MTBF of 50,000 hours.

- Micro USB B connector
- Cable length 1.5m
- Automatic recovery from short circuit and over current conditions
- ErP Level VI efficiency rating
- UL Approval

Order code **75-0715**

£5.80

For full range of **Raspberry Pi** accessories visit **www.rapidonline.com**

TruConnect
4mm Stackable Plugs

These 4mm plugs have a 4mm socket in the rear providing an in-line stacking facility.

- The lead wire is clamped in position by a screw
- Nickel plated brass insert with stainless steel plug spring
- 10A rating
- Spare screws are available
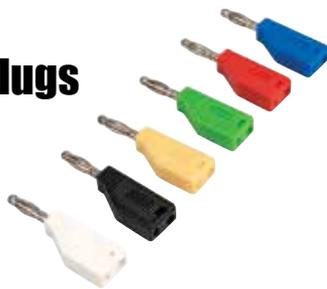
MOQ 2

Type	Order code	2+	100+	500+
Black stackable plug	17-0400	£0.614	£0.463	£0.401
Blue stackable plug	17-0405	£0.614	£0.463	
Green stackable plug	17-0410	£0.614	£0.463	
Red stackable plug	17-0420	£0.614	£0.463	£0.401
White stackable plug	17-0425	£0.614	£0.463	
Yellow stackable plug	17-0430	£0.614	£0.463	

Price each

Type	Order code	1+	5+	10+
Spare screws (Pack of 25)	17-0398	£0.989	£0.828	£0.74

TruConnect
4mm Stackable Test Leads 500mm

These banana to banana test leads are available with a lead length of 500mm. The stackable 4mm banana plugs have been machined from brass and nickel plated. They also have a moveable multi-lam contact cage spring for tight fit.

- Body: Brass
- Spring: Nickel plated
- Insulation: ABS
- Lead: PVC covered
- Lead width: 0.75²
- Plug length: 45mm
- Voltage: 30V AC - 60VDC
- Maximum current rating: 15A
- Supplied with a lead length of 500mm
- Available in black, blue, green, red and yellow

Type	Order code	1+	25+	100+	500+
Black 4mm test lead	17-2836	£0.867	£0.619	£0.568	£0.531
Blue 4mm test lead	17-2837	£0.867	£0.619	£0.568	
Green 4mm test lead	17-2838	£0.867	£0.619	£0.568	
Red 4mm test lead	17-2839	£0.867	£0.619	£0.568	£0.531
Yellow 4mm test lead	17-2840	£0.867	£0.619	£0.568	

TruConnect
Standard Crocodile Clip

A low cost bright metal crocodile clip. The uninsulated clip has a 4mm socket that will accept a 4mm banana plug. The wire can also be connected by means of the fitted screw or soldered in to place. The grip is very strong within its jaw opening of 8.5mm.

- Low cost
- Accepts 4mm banana plugs
- Wire can be screwed or soldered
- Crocodile body: Steel nickel plated
- Insulation: Uninsulated
- Length: 51mm
- Rated current: 10A

MOQ 10

Type	Order code	10+	100+	500+	1000+
Standard crocodile clip	17-2873	£0.113	£0.08	£0.072	£0.066

≡RVFM
Crocodile Lead Pack

A pack of 460mm long crocodile clip leads. Available in either a **pack of 10** leads in 5 colours, or a **pack of 20** leads in red and black.

- Terminated at each end with a vinyl covered crocodile clip
- Ideal for use as test clips

Type	Order code	1+	10+
Assorted pack 10	17-0350	£2.02	£1.73
Red/black pack 20	17-0345	£3.52	£2.91

UNISTRAND cable
2:1 Heat Shrink Sleeving, 25m Reels

Available in a wide range of sizes.

- Excellent flame retardant properties
- Excellent flexibility and insulation
- Thermally stabilised flame retardant polyolefin
- 2:1 shrink ratio
- Temperature range –55°C to +125°C
- Shrinking temperature starts at +70°C and totally shrunk at 115°C
- Available in black (for other colours see order code **03-0351**)
- Sizes quoted before shrinking
- UL224 **and** VW-1 **approved**

Type	Order code	1+	5+	10+
1.6mm Black	03-0340	£5.09	£4.58	£4.07
2.4mm Black	03-0341	£6.49	£5.84	£5.19
3.2mm Black	03-0342	£7.01	£6.31	£5.62
4.8mm Black	03-0343	£7.45	£6.71	£5.95
6.3mm Black	03-0344	£8.70	£7.84	£6.96
9.5mm Black	03-0345	£10.81	£9.74	£8.58
12.7mm Black	03-0346	£12.22	£10.95	£9.74
19.1mm Black	03-0347	£17.92	£16.14	£14.33
25.4mm Black	03-0348	£21.64	£19.50	£17.33
38.1mm Black	03-0349	£42.10	£39.72	£38.27
50.8mm Black	03-0350	£49.45	£46.65	£44.92

080616

3:1 Heat Shrink Sleeving, 25m Reels

This heat shrink sleeving has excellent flame retardant properties, flexibility and insulation.

- Thermally stabilised flame retardant polyolefin material
- 3:1 shrink ratio
- Temperature range –55°C to +125°C
- Shrinking temperature starts at +70°C and totally shrunk at +115°C
- Sizes quoted before shrinking
- Supplied on **reels of 25m**
- **UL224** and **VW-1** approved

Type	Order code	1+	5+	Type	Order code	1+	5+
1.5mm Black	03-0489	£6.63	£6.34	12mm Black	03-0493	£36.10	£33.97
3mm Black	03-0490	£9.94	£9.49	18mm Black	03-0494	£43.89	£41.40
6mm Black	03-0491	£16.88	£15.92	24mm Black	03-0495	£60.75	£57.32
9mm Black	03-0492	£31.50	£29.72	6mm Red	03-0702	£17.26	£16.29

068952

Black Weather Resistant Cable Ties

This black cable tie is ideally suited for any outdoor application.

- Weather–resistant ties have Carbonate A
- Offers UV resistance
- Fastens wires, cables and hose
- One piece construction for consistent performance and reliability
- High strength and low thread force
- For outdoor use

Type	Qty	Order code	1+	10+	50+
100 x 2.5mm Cable tie	Pack 100	04-0636	£0.539	£0.465	£0.405
150 x 3.6mm Cable tie	Pack 100	04-0637	£1.59	£1.39	£1.25
200 x 4.6mm Cable tie	Pack 100	04-0638	£2.45	£1.96	£1.69
292 x 3.6mm Cable tie	Pack 100	04-0639	£3.73	£3.37	£3.27
368 x 4.8mm Cable tie	Pack 100	04-0640	£4.91	£4.54	£4.08
100 x 2.5mm Cable tie	Pack 1000	04-0725	£4.72	£4.24	£3.85

071168

Canister Packed Cable Ties

- Manufactured from Nylon 6.6
- Flame retardant to **UL94V2**
- Four different packs available

CANISTER 1 (1000 ties)
1000x 100mm
Various mixed colours

Order code 04-0430
£6.85

CANISTER 2 (500 ties)
200x 100mm
100x natural, 25x red, 25x yellow, 25x blue, 25x black
200x 140mm
100x natural, 100x black
100x 180mm
50x natural, 50x black

Order code 04-0432
£7.55

CANISTER 3 (300 ties)
200x 100mm
100x natural, 25x red, 25x blue, 25x yellow, 25x green
100x 200mm
50x natural, 25x red, 25x blue

Order code 04-0434
£3.80

CANISTER 4 (400 ties)
300x 100mm
100x red 100x blue, 100x green
100x 200mm
100x natural

Order code 04-0436
£4.53

Rapid

Extra Flexible Wire

A very flexible wire suitable for test leads, interconnection and frequently being moved wires.

- 55/0.1mm copper conductor
- Overall diameter 2.8mm
- Maximum current rating 6A
- Temperature: minimum –10°C
- Temperature: maximum: 60°C/Aging temperature
- Supplied on **reels of 25m**

Price each 1+	Price each 10+
£3.92	**£3.35**

Type	Order code	Type	Order code
Red extra-flex	01-0600	Green extra-flex	01-0615
Black extra-flex	01-0605	White extra-flex	01-0625
Blue extra-flex	01-0610	Yellow extra-flex	01-0630

062327

Use with 4mm stackable plugs to make your own test leads

Rapid

Equipment Wire 7/0.2mm

A high quality wire produced to the **DEF61-12 (Part 6)** standards, making it ideal for general interconnection within apparatus.

- 7/0.2mm tinned copper conductor
- Overall diameter 1.2mm
- Rating 1kV rms 1.4A at 70°C
- Supplied on **reels of 100m and 500m**

Type	Order code	Type	Order code	Type	Order code
Black	01-0400	Grey	01-0420	Violet	01-0440
Blue	01-0405	Orange	01-0425	White	01-0445
Brown	01-0410	Pink	01-0430	Yellow	01-0450
Green	01-0415	Red	01-0435	Kit of 11 reels	01-0480

Price each 1+ 100m reel	Price each 10+ 100m reel	Kit of 11 reels 1+ 100m reel	Kit of 11 reels 10+ 100m reel
£5.69	**£4.87**	**£59.30**	**£49.80**

Type	Order code	Type	Order code	Type	Order code	Price each 1+ 500m reel
Black	01-2200	Grey	01-2208	Violet	01-2216	**£24.55**
Blue	01-2202	Orange	01-2210	White	01-2218	
Brown	01-2204	Pink	01-2212	Yellow	01-2220	
Green	01-2206	Red	01-2214			

062320

UNISTRAND cable

Tinned Copper Wire

A reel of tinned copper wire.

- Supplied on **reels of 500g**

Please Note: These figures are the carrying currents. The fusing currents will be higher.

SWG	Length (m)	Size	Fuse rating	Order code	1+
14	17	2.0mm	100A	05-0295	£14.05
16	27	1.6mm	65A	05-0300	£14.96
18	48	1.25mm	45A	05-0305	£14.96
20	66	0.90mm	32A	05-0310	£14.96
22	140	0.71mm	24A	05-0315	£14.96
24	230	0.56mm	18A	05-0320	£14.96
26	340	0.45mm	13A	05-0325	£14.96
28	490			05-0330	£14.96
30	780	0.315mm	9A	05-0335	£14.96
32	914	0.28mm	7.5A	05-0340	£15.22
34	1285			05-0350	£16.16
38	3182	0.15mm	3A	05-0360	£16.76

062485

Copper/nickel Alloy Wire

A range of copper/nickel alloy wire (also known as Constantan)

- Suitable for winding resistance coils
- Wire not insulated
- Supplied in **lengths of 228m approx.**
- **Supplied on reels of 125g**

Type	Order code	1+
16SWG	05-0400	£16.24
20SWG	05-0405	£16.24
28SWG	05-0407	£16.24
30SWG	05-0410	£16.24
32SWG	05-0415	£16.24
34SWG	05-0420	£16.24
36SWG	05-0425	£16.24

062486

Rapid

1/0.6mm Single Core Equipment Wire on 100m Reels

This wire has a solid core and is ideal for plate wiring (running wires across a chassis with all wires straight or at right angles to one another). This wire remains in formed shape without cable ties.

- 1/0.6mm copper conductor
- Overall diameter 1.2mm
- Rating 1kV rms 1.8A at 70°C
- Weight of reel approx 400g

Type	Order code	Type	Order code	Type	Order code
Black	01-0300	Grey	01-0320	Violet	01-0340
Blue	01-0305	Orange	01-0325	White	01-0345
Brown	01-0310	Pink	01-0330	Yellow	01-0350
Green	01-0315	Red	01-0335	Kit of 11 reels	01-0380

062317

Price each 1+	Price each 10+	Kit of 11 reels 1+	Kit of 11 reels 10+
£5.98	**£5.45**	**£59.95**	**£55.75**

Ideal for use with breadboards

Education

Components

Tru⊛opto

Rainbow Colour Cycling 5mm LED

Innovative, eye catching colour change LEDs. The 5mm LED contains an inbuilt IC that causes the LED to cycle through the red, green and blue elements, individually and then in combination. Colour cycles in 33s.

- Water clear or diffused lens types
- Ideal for use in warning devices, indication panels, alarm systems, mood lighting, toys

For technical specification visit **www.rapidonline.com**

Lens type	Order code	MOQ 5 - In Multiples of 5		
		5+	100+	500+
Clear	55-1904	£0.699	£0.521	£0.347
Diffused	55-1906	£0.699	£0.521	£0.347

075160

Tru⊛opto

5mm White LEDs

LEDs that are available in high luminous intensities of up to 30,000mcd at 20mA and provide white LED technology at the cost of lower technology indicators. Suitable for a wide range of illumination and indication applications where high luminous intensity is required, such as: small area illumination, back lighting and general purpose indication.

- Housed in an industry standard 5mm water clear package
- Viewing angle 15°
- Superior weather resistance
- UV resistant epoxy
- Suitable alternative for filament lamps

For technical specification visit **www.rapidonline.com**

Type	Order code	MOQ 5 - In Multiples of 5		
		5+	100+	500+
LED 6000mcd	55-1820	£0.663	£0.484	£0.359
LED 10,000mcd	55-1886	£0.458	£0.297	£0.246
LED 30,000mcd	55-2216	£0.771	£0.646	£0.521

064846

Tru⊛opto

Solderless LED Holder

A novel LED holder with 200mm leads prestripped and tinned which simply clips to the rear of the LED and is retained in position by a patented clamping device.

- Suitable for use with all LEDs with leads on a 2.54mm pitch, the holder will significantly reduce assembly time
- Dimensions 14.5 x 2.6mm
- Moulded in Toray
- **UL 94V-0** rating

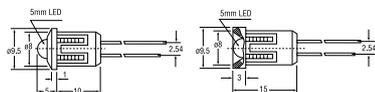| Type	Order code	MOQ 5 - In Multiples of 5		
		5+	25+	100+
LED holder	55-0167	£0.481	£0.423	£0.374

029296

Kingbright

LED Bezel 5mm

Attractive push fit panel clips for 5mm LEDs in black nylon offering professional appearance at low cost.

- Available in either recessed or prominent position styles
- Mounting hole is 8mm
- **Kingbright types RTF 5010** (prominent); **RTF 5020** (recessed)

Type	Order code	MOQ 5 - In Multiples of 5		
		5+	100+	1000+
Prominent clip	55-0260	£0.227	£0.142	£0.116
Recessed clip	55-0265	£0.261	£0.163	£0.133

029304

≡RVFM

BA15D SBC Lamps

A range of 12V filament lamps in a BA15D fitting.

- Available in a choice of wattages
- Ideally suited to many applications in education
- Lamp holders, either unmounted or mounted are also available

Radial   Axial

Technical specification

Voltage	Wattage	Filament style	Order code
12	21	Radial (horizontal)	**41-0454**
12	24	Axial (vertical)	**41-0455**
12	36	Axial (vertical)	**41-0456**
12	48	Axial (vertical)	**41-0462**

Type	Order code	1+	5+	10+
12V 21W Lamp	41-0454	£1.41	£1.33	£1.25
12V 24W Lamp	41-0455	£2.64	£2.45	£2.17
12V 36W Lamp	41-0456	£2.64	£2.45	£2.17

517585

≡RVFM

BA15D SBC Lamp Holders

A brass SBC (B15D) lampholder available either unmounted or mounted onto a base fitted with two 4mm sockets.

- Ideally suited to many applications in education
- A range of suitable bulbs of differing wattage and filament style are also available

Type	Order code	1+	5+	10+
Brass lampholder	41-0452	£3.36	£2.86	£2.57
Mounted lampholder	41-0453	£5.44	£5.07	£4.70

517584

Tru⊛opto

Miniature Light Dependent Resistor

A compact low cost cadmium sulphide light dependent resistor (LDR) housed in a small package.

- 5mm diameter
- Clear epoxy finish
- Resistance reduces as the light falling on the device increases
- Note: This product contains cadmium sulphide, the use of which is restricted by the RoHS directive

Technical specification

Dark resistance	1MΩ
Resistance @ 10 Lux	10-20kΩ
Resistance @ 100 Lux	2-4kΩ
Peak spectral response	540nm
Max. voltage	150V peak AC or DC
Power dissipation	100mW
Lead pitch	3mm
Operating temperature	–30°C to +70°C

Type	Order code	MOQ 5 - In Multiples of 5		
		5+	25+	100+
Miniature LDR	58-0134	£0.404	£0.33	£0.251

034796

Silonex

Light Dependent Resistor NORPS12

Cadmium sulphide light dependent resistor (LDR).

- Housed in a robust plastic package with clear end window
- Resistance reduces as the light falling on the LDR increases
- **Silonex type NORPS12**
- Note: This product contains cadmium sulphide, the use of which is restricted by the RoHS directive

Technical specification

Dark resistance	1MΩ
Resistance @ 1ftc	5.4kΩ min, 12.6kΩ max.
Peak spectral response	550nm
Max. voltage	250V peak AC or DC
Power dissipation	250mW max.
Operating temperature	–60°C to +75°C
Dimensions	14.35mm dia. x 7.0mm high 9.53mm pitch pins

Type	Order code	1+	25+	100+
NORPS12	58-0132	£1.01	£0.852	£0.767

034793

PowerPax UK

12V LED Strips, 4.8W per metre

These PowerPax 12V LED strips are available in a variety of colours and in a choice of 1m and 5m lengths. All the strips are supplied with a socket so the LEDs can be put to use without any need for soldering - just connect them up to a 12V DC power supply and they are ready to go.

Whatever your lighting needs, if you have a power supply handy these LED strips can offer a solution - under counters, in cupboards, shop windows or just to get your message across.

The long life super bright LEDs offer very low power consumption with just 4.8W per metre. The strips are supplied on a flexible printed circuit board with a sticky tape backing, making installation simple - just peel off the backing and apply the strip to any flat, clean surface.

A variety of power and connection options are available for these products.

- Choice of LED colours - cool white, warm white, red, blue and green
- 60 super bright LEDs per metre
- Flexible tape - minimum bend radius 2cm
- Maximum continuous connection 5m without additional power source
- Strips available in 1m and 5m lengths
- 8mm backing tape and 2.1mm input socket supplied
- Strips can be cut to length at 50mm intervals
- Dimmable LEDs

For technical specification visit **www.rapidonline.com**

Colour	Length	LED qty	Output per metre (lumens)	Max. power consumption	Order code	1+	3+	5+
Cool White	1m	60	390	4.8W	56-2330	£12.86	£11.28	£9.57
Warm White	1m	60	300	4.8W	56-2332	£14.80	£13.74	£12.68
Red	1m	60	180	4.8W	56-2334	£14.80	£13.74	
Blue	1m	60	90	4.8W	56-2336	£9.58		
Green	1m	60	300	4.8W	56-2338	£9.58		
Cool White	5m	300	390	24W	56-2340	£47.75		
Warm White	5m	300	300	24W	56-2342	£47.75		

519220

Tru Opto

Flexible LED Strips 30-way

A range of separable LED strips on a flexible printed circuit board. The whole strip contains 30 LEDs and associated circuitry, and the strips are available in a spectrum of colours. Each strip can be separated in to 10 x 3 LEDs pieces and are adhesive backed.

The versatility and operating performance of these LEDs make them ideally suited to a wide range of applications including: channel letter signs, indirect accent decor light, large area back lighting, under counter lighting, building contour delineation, substitution for neon lighting and signage.

- Simple to use, just connect to suitable voltage
- Self-adhesive backing can be fixed almost anywhere
- High intensity output with low power consumption
- Energy saving
- Excellent beam control
- Long life
- Each LED has 120° viewing angle for even light distribution

For technical specification visit **www.rapidonline.com**

Colour	Order code	1+	10+	25+
White	56-0480	£11.22	£10.48	£8.93
Warm white	56-0478	£9.59	£8.98	£8.75
Red	56-0482	£10.47	£9.73	£8.37
Blue	56-0490	£10.23	£9.50	£8.17

081568

Kingbright

LED Display 14.2mm

Kingbright are a worldwide leading manufacturer of LEDs, offering a range of 14.2mm (0.56in high) seven segment displays available in red, high efficiency red, super red or green.

These well designed components have been categorised for luminous intensity, and use only the best materials with the source color devices made of Gallium Phosphide on Light Emitting Diode. On top of that, the connectors along top and bottom simplify wiring in multi-digit applications.

- Low current operation
- White segments and grey display surface to maximise on/off contrast
- Attractive character appearance
- Easy mounting on PC Boards or sockets
- I.C. Compatible
- 14mm (0.56 inch) digit height

For technical specification visit **www.rapidonline.com**

MOQ 5 - In Multiples of 5

Type	Mftrs. suffix	Order code	5+	25+
Common anode				
CA Red	11HWA	57-0120	£0.725	£0.551
HE red	11EWA	57-0122	£0.687	£0.624
Super red	11SRWA	57-0124	£0.595	£0.53
Green	11GWA	57-0170	£0.659	£0.595
Common cathode				
Red	11HWA	57-0125	£0.693	£0.617
HE red	11EWA	57-0127	£0.695	£0.627
Super red	11SRWA	57-0129	£0.645	£0.573
Green	11GWA	57-0172	£0.649	£0.575
SB Red 1-digit	11LSRWA	57-1448	£0.886	£0.761

029374

Kingbright

13.2mm LED Display

A range of 13.2mm (0.52in high) seven segment displays available in red, high efficiency red, super red or green employing advanced GaAlAs technology. Right hand decimal point. Connections run along the top and bottom of the display simplifying wiring in multi-digit applications. All displays are categorised for luminous intensity with white diffused segments and grey display surface to maximise on/off contrast.
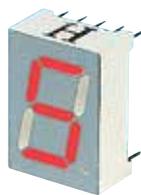
- **Kingbright S52** series

For technical specification visit **www.rapidonline.com**

MOQ 5 - In Multiples of 5

Type	Order code	5+	25+	100+
CA Red	57-0110	£0.628	£0.548	£0.426
CC Red	57-0115	£0.683	£0.606	£0.466
CA HE red	57-0112	£0.595	£0.50	£0.396
CC HE red	57-0117	£0.736	£0.649	£0.559
CC Super red	57-0119	£0.525	–	£0.48

064919

Tru Opto

1W High Luminous Flux Power LEDs

A range of 1W LEDs that feature high luminous flux with super energy efficient operation.

Suitable applications for these LEDs include: reading lights, portable lighting, security/bollard/garden, traffic signalling and beacons, signage, etc.

- Silicon lenses (epoxy lens for **55-1887**)
- High luminous flux
- Super energy efficiency
- Long lifetime operation
- Superior ESD protection
- Superior UV resistance
- Beam angle 120°

For technical specification visit **www.rapidonline.com**

Type	Order code	1+	25+	100+
High flux red	55-1867	£1.71	£1.56	£1.33
High flux green	55-1869	£1.71	£1.56	£1.33
High flux blue	55-1871	£1.71	£1.56	£1.33
White 80lm	55-1873	£1.46	£1.28	£1.11
White 100lm	55-1863	£1.71	£1.56	£1.33
Warm white 90lm	55-1865	£1.71	£1.56	£1.33

200100

Tru Opto

1W High Luminosity Power LED Stars

These power star LEDs are high luminosity modules that are mounted on an PCB substrate. Being more energy efficient than incandescent and most halogen lamps and available in a range of colours, including white and warm white, these LEDs are ideal for a wide range of applications including: electronic signs and signals, small area illumination, back lighting and other lighting, bollards, security and garden uses, traffic signalling and beacons.

- High luminous flux
- Super energy efficiency
- Long operational life
- Superior ESD protection
- Superior UV resistance

For technical specification visit **www.rapidonline.com**

Colour	Order code	1+	25+	100+
Red	55-2243	£2.05	£1.94	£1.71
Green	55-2245	£2.05	£1.94	£1.71
Blue	55-2247	£2.05	£1.94	£1.71
White	55-2239	£2.05	£1.94	£1.71
Warm white	55-2241	£2.05	£1.94	£1.71

200093

SCI PARTS

Miniature Toggle Switches

A range of low cost panel mounting miniature toggle switches.

- Provides exceptional value
- Available in single pole and double pole options including momentary biased options
- All switches are fully approved to **UL** and **CSA**
- **SCI TA102/TA202** series

For biased switches (On) indicates momentary action.

MOQ 5 - In Multiples of 5

Type	Order code	5+	25+	100+
SPST	75-0125	£0.69	£0.61	£0.56
SPDT On-Off	75-0130	£0.68	£0.62	£0.58

Price each

Type	Order code	1+	25+	100+
SPDT Centre-Off	75-0135	£0.706	£0.608	£0.545
SPDT On-Off-(On)	75-0152	£0.79	£0.73	£0.65
SPDT (On)-Off-(On)	75-0157	£0.906	£0.809	£0.721
DPDT On-On	75-0140	£0.83	£0.74	£0.69
DPDT Centre-Off	75-0145	£0.943	£0.802	£0.734

030254

Sub-miniature Toggle Switches

A range of low-cost panel mounting sub-miniature toggle switches.

- Excellent value
- Ideal for use where space is at a premium
- **SCI MTE** series

Type	Order code	1+	25+	100+
2P SPST On-Off	75-0095	£0.753	£0.597	£0.506
3P SPDT On-On	75-0096	£0.724	£0.574	£0.487
6P DPDT On-On	75-0097	£0.747	£0.585	£0.524

079431

SPST Snap-in Rocker Switch

A low cost nylon rocker switch.

- 15.2mm dia. panel cut-out
- Silver plated brass terminals
- Snap-in mounting
- Available in black
- Dimensions 25mm(L) x 19mm diameter
- **UL flame 94V-2** approved

MOQ 5 - In Multiples of 5

Type	Order code	5+	25+	100+
Black rocker switch	75-0057	£0.48	£0.43	£0.38

071446

SPST Miniature Rocker Switch

A miniature single pole rocker switch with black concave rocker.

- Has a red marking which is clearly visible when switch is in the 'on' position
- Switch snap fits into a 20mm panel cut-out
- 4.8 x 0.8mm fast-on connections
- **UL**, **CSA** and **VDE** approved
- **SCI type R13-112A2**

Type	Order code	1+	25+	100+
SPST Miniature rocker	75-0480	£0.77	£0.62	£0.54

031451

For technical specifications visit **www.rapidonline.com**

≡RVFM

Audio Amplifier Kit
(Class Pack of 20)

Only £2.26 per kit

Aimed at **Key Stage 3**, the Rapid Audio Amplifier Project Kit provides teachers and students with a stimulating and inexpensive project through which to study the subject of amplification. The kits contain a comprehensive selection of components for schools working on audio related projects linked to the National Curriculum.

The kit is available in packs of 5 or a classpack of 20 kits offering a worthwhile saving on parts bought separately - ideal for schools working to tight budgets. The Classpack of 20 is supplied in a Gratnells tray with lid..

- Students have the opportunity to build a small amplifier, which can be incorporated into a variety of product designs, e.g., as an amplifier for a personal CD/MP3 player so that they can share their music with their friends
- The students have a number of design situations to select a starting point from, and they are provided with research topics and background material to help build understanding for their chosen design brief
- The student notes provide material for students to explore how a range of simple amplifier circuits work
- They also include guidance on the design and construction of speakers
- To support students during the construction of the circuit, detailed instructions have been included on how to assemble the amplifier, and how to integrate the circuit into student designs
- In addition, care has been taken, through extensive evaluation of the teaching material and PCB designs in schools, to ensure that the circuits are easy and robust enough for student manufacture
- A detailed set of teacher notes is available which includes suggested lesson plans and mapping to the National Curriculum

- The project notes have been designed for photocopying for class use
- Each kit contains the following:
- TBA820M audio amplifier and IC socket
- Resistors, capacitors, and LED
- Switch and connecting jack socket
- Connecting cable
- Speaker and speaker cable
- Battery clip
- Pre-drilled PCBs are available separately in packs of 5, order code 70-0190 (Included in Classpack)
- Suitable for **Key Stage 3** (ages 11 to 14)
- Supplied in **classpacks of 20 packs** (includes PCBs)
- Classpack of 20 is supplied in a 43 x 31 x 7cm Gratnells Tray with lid

Teachers notes are available to download at www.rapidonline.com.

Order code **13-0106**
£45.28

≡Rapid

Moisture Tester Project Classpack

Only 94p per kit

A **classpack of 20 kits** of components to build a functional **Moisture Tester** that can tell if pot plants require water. The classpack contains all the electronic components required, including ready-made PCBs, in a Gratnell's Tray with lid. It offers a substantial saving compared to parts bought separately.

Students will love this Moisture Tester Project, which is linked to the National Curriculum, as it is simple to assemble and is ideal as an introduction to electronics.

- Dimensions of the box: 43cm x 31cm x 7cm
- Great school resource
- Suitable for **Key Stages 2 & 3** (ages 7 to 14)
- Supplied as **a pack**

Each kit requires 1x PP3 battery (not included).

Classpack contains:	
4 x Moisture tester kit (pack 5)	70-0030
4 x Moisture tester kit PCBs (pack 5)	70-0040
1 x Shallow Tray	14-0430
1 x Tray lid	14-0436

Order code **13-0102**
£18.75

TruMotion

Quartz Clock Movement and Numerals

These quartz crystal controlled clock movements and numerals are ideal for replacing defective units or for creating your own personalised clock projects.

They allow you to make any number of different clocks from CDs, papier mache, even paper plates, the only limits are your imagination. Use paper crafting techniques to design and build suit any room and express your creativity.

0987654 0669211
338 87122111

clocks that will

- Quartz crystal controlled clock movements ideal for replacing defective units or for creative clock projects
- Black self-adhesive Arabic Numerals, 20mm high
- Gold self-adhesive Arabic Numerals, 16mm high

Type	Order code	1+	25+	100+
Clock movement	85-1430	£1.30	£1.03	£0.935
Numeral set - black	85-1421	£0.826	£0.70	£0.643
Numeral set - gold	85-1422	£1.53	£1.25	£1.12

074959

≡Rapid

LED Christmas Tree Project
Classpack of 30

Order code **70-1005**
£71.22

Only £2.38 per kit

30 kits of parts for a simple to build festive project. Supplied with comprehensive instructions. Ideal as a one lesson end of term project.

- Size of finished tree: height 105mm, width (max.) 65mm
- Money-saving classpack of 30 kits packed in a Gratnells tray
- Suitable for Key Stage 3 (ages 11 to 14)
- Constructional notes are available for download at **www.rapidonline.com**

Each kit requires 1x PP3 battery (not included).

Fast Delivery
All orders for in-stock items received by 7pm – Monday to Friday are despatched the same day

Velleman

MK194N FM Radio Kit

This FM Radio Kit from Velleman will give you double the fun of learning to build and then listening to the FM radio. Suitable for beginners with little or no previous knowledge of electronics.

- New and enhanced HQ FM receiver module
- Single button station search function
- 4 station presets with confirmation beep
- Restore of last selected station at switch-on
- Soft fade-in of last audio level at switch-on
- FM range: 88 to 107.9MHz (0.1MHz step)
- Power supply: 9V DC (battery not incl.)
- Power consumption: 40mA max.
- Dimensions: 130 x 85 x 45mm / 5.1 x 3.34 x 1.8in.
- Suitable for beginners with little or no previous knowledge of electronics
- **Velleman type MK194N**

Order code **70-4037** **£16.45**

Velleman

Wheel of Fortune Kit

This wheel of fortune acts just like the game, just push the button and the 10 LEDs start showing a spinning action. They gradually slow down until the winning one remains lit.

- Push the button to start spinning action
- 10 LEDs red, yellow and green
- Spinning action gradually decreases
- Auto power-off
- Low power consumption
- Suitable for the intermediate, some previous knowledge of electronics required
- Good soldering techniques for medium dense boards recommended
- Dimensions 33(L) x 0.64(D)mm
- **Velleman MK152**

Requires 9V PP3 battery (not included).

Order code **70-4058** **£4.10**

555 Alternating Flasher Kit
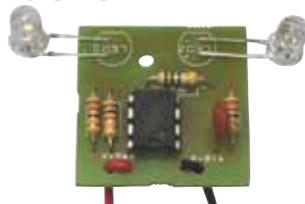
A kit of parts to make a simple and reliable alternating flasher circuit based around possibly the most famous 'chip' of all, the 555 timer.

In this circuit, it is used as an astable (oscillator) and directly drives two LEDs, flashing them alternately.

The kit is quick to build, even by absolute beginners. It provides a quick way to add some electronic interest to a variety of projects, from aliens with flashing eyes through to edge-lit acrylic display stands.

Constructional notes are available for download at **www.rapidonline.com**

Kit contains:

Order code	Description	Qty
82-0336	NE555 bipolar single timer	1
18-0092	TruPower PP3 battery clip (heavy duty) end entry	1
08-0235	100nF 5mm ceramic disc capacitor	1
62-0354	220Ω CR25 0.25W carbon film resistor	2
62-0370	1kΩ CR25 0.25W carbon film resistor	1
62-0462	6.8MΩ CR25 0.25W carbon film resistor	1
62-0446	1.5MΩ CR25 0.25W carbon film resistor	1
62-0438	680kΩ CR25 0.25W carbon film resistor	1
55-0155	Kingbright L-7113ID 5mm 2V Red diffused LED 45mcd	2
70-1050	555 flasher PCB	1

Order code **70-1051** **£1.53**

Rapid

555 Astable/ Monostable Project Kit

Only £1.80 per kit

The 555 Astable/Monostable PCB project has been designed specifically to support and integrate with teaching schemes for **Key Stages 3 & 4**. Instruction details are available for free download at **www.rapidonline.com**.

- The kit is a timing circuit, which can be used to switch devices or circuits on and off
- Knowledge, skills and understanding can be developed in: component recognition and purpose; PCB circuit assembly and soldering; system and circuit principles; signal tracing and fault finding; product design
- All components, including the PCBs, are provided
- The kit includes: resistors and capacitors, NE555 timer, switches and preset resistors, LEDs, wire PCB and PP3 battery clip
- **Kit contains components for 5 circuits**
- Suitable for **Key Stages 3 & 4** (ages 11 to 16)

Each kit requires 1x PP3 battery (not included).

Order code **70-0225** **£8.89**

RVFM

10W Stereo Amplifier with Speakers
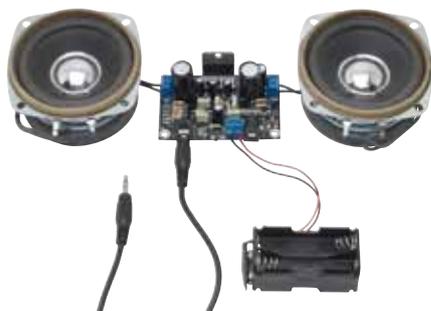
This stereo audio amplifier kit gives you more power and more volume than our standard kits. Each channel can deliver up to 10W for a louder, crisper sound. The kit is supplied complete with speakers. Supplied with assembly instructions.

- Kit includes PCB and all components to make one stereo amplifier
- Supplied complete with speakers (35-1400) which are 80mm in diameter by 50mm high with 8Ω impedance
- 10W power per channel
- Stereo connecting cable supplied 3.5mm male to male
- Requires 4 x AA batteries (not included)
- Amplifier dimensions are 50mm width x 75mm length x 30mm height

Order code **70-0189** **£9.92**

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

From only £3.25 per kit

RK Education

Stereo Audio Amplifier Kit

This project kit is a stereo version of our popular Audio Amplifier Project, 70-0180. Once assembled, the amplifier can be connected to MP3 players, laptops or any other device with a 3.5mm headphone jack socket.

The kit contains all components, speakers, printed circuit board and connecting cable. It is available in packs of 5 kits or as a class pack of 20 kits.

- Stereo version of the popular Audio Amplifier Project, 70-0180
- Can be connected to MP3 players, laptops or any other device with a 3.5mm headphone jack socket
- Kit contains all components, speakers, printed circuit board and connecting cable
- Available in **packs of 5** kits or as a **classpack of 20** kits

Each kit requires a 9V, PP3 battery (not included).

Pack of 5
Order code **70-0198**
£17.43

Classpack of 20
Order code **70-0199**
£64.88

Education

Power Supplies & Test Equipment

≡**Rapid**

Dual Rail 1A Regulated Power Supply

A versatile supply offering a wide range of stabilised DC voltages in both single and dual rail mode. The use of separate 4mm terminals for each of the positive and negative outputs gives the user eleven single rail voltages ranging from 3V to 30V and thirty three dual rail voltages (symmetrical and asymmetrical) in the range 5-0-5V to 15-0-15V.

- A maximum of 1A per rail is available
- All outputs are short circuit protected
- The supply is enclosed in a sturdy steel case which is fitted with a carry handle
- Supplied with mains lead and a comprehensive user manual
- This unit will find a ready home in R + D test laboratories and education
- Dimensions 140 x 125 x 240mm

Order code 85-1715   **£96.34**

BASETech
Single Output 150W Variable Bench Power Supply

The Basetech BT-305 is a continuously adjustable linear DC Power Supply with specifications and design/build quality that stretch beyond other PSUs in its price bracket.

Both output voltage and current limit can be set independently using the front mounted dials, including fine adjustment for voltage. The BT-305 has two easy to read LED displays, showing the voltage and current output, even when the PSU's output is Off.

Automatic switching between constant voltage and constant current mode, and infinitely adjustable current limiting and output voltage make this power supply unit the perfect entry level model for hobby and model construction.

Order code 52-1977   **£98.00**

- Single 0-30V variable output, 0-5A
- Coarse and fine voltage adjustment
- Automatic switching between constant current and constant voltage modes
- Toggle output On/Off, voltage and current remain displayed
- Convenient carrying handle
- Weight 5.3kg

Cable supplied.

VOLTCRAFT®
22.5W Single Output DC Bench Power Supply, Linear, Variable

At just 16cm wide, the Voltcraft PS-1152A makes an ideal basic space saving bench power supply for lower voltage ranges from 1.5V to 15V.

This electronically regulated linear power supply has a fixed current limit at 1.5A. The PS-1152A is protected against overheating and short circuit. The PSU is convection cooled.

- Overheating protection
- Short circuit protection
- Outputs: 1
- Max power: 22.5W
- Voltage setting range: 1.5 to 15V DC
- Current limit: 1.5A
- Analogue display
- Convection cooled
- PSU Technology: Linear

Power cable not included

Order code 51-1823   **£41.54**

VOLTCRAFT®
Digital Oscilloscope, 60MHz with VGA Interface

The **Voltcraft DSO-1062D-VGA** is an **Entry-Level Digital Storage Oscilloscope** with a **VGA Interface** for connection to a large screen or projector if required. This oscilloscope provides two channels with a bandwidth of 60MHz, a real-time sampling rate of 1GSa/s, and a memory depth of 512kpts per channel, which are available when using only one channel to 1Mpts.

The oscilloscope has a **large 17.7cm** (7 inch) colour display with a resolution of 800 x 480 pixels as well as **WINDOWS-style interfaces** and menus for easy operation.

The **DSO-1062D-VGA** has a multilingual Help menu, easy-to-operate buttons and multifunctional knobs. The shortcut keys help you save a lot of time in operation; the Autoset function lets you detect sine and square waves automatically; the Probe Check Wizard helps you to adjust the probe compensation and set the Probe option attenuation factor.

The oscilloscope provides context-sensitive, hyperlinks, and an index to enable you to master all operations on the device easily and quickly, improving your efficiency in production and development. It has also a VGA interface for connection to a large screen for classroom demonstration purposes.

Order code 52-0935   **£277.00**

What's in the Box?
- Voltcraft DSO-1062D-VGA
- 2 probes (each 1: 1/10: 1)
- Power cord
- USB cable
- Software
- Detailed instruction manual (English)
- Quick Guide (multilingual)

- 60MHz bandwidth
- 1GS/s real-time sampling rate, 25GS/s equivalent
- Discount set with 2 probes
- Manufacturer's part: **Voltcraft DSO-1062D-VGA**

Please Note: *The oscilloscope screen is still valid when connection to a large screen is made.*

VOLTCRAFT®
Digital Multimeter, 2000 Counts

The **Voltcraft VC-130-1** is a **Digital Multimeter** that is a robust unit with a manual selection range. The VC-130-1 offers something for every user, and can handle measurements up to 250V.

- Diode test
- Acoustic: Continuity tester
- Non-contact AC Voltage Detector
- hFE transistor testing (with optional adaptor)
- Hold function
- Low battery indication
- Robust housing with soft rubber protection
- Supplied with Test leads, 9V battery and manual
- Manufacturer's part: **Voltcraft VC-130-1**

Order code 55-9059   **£15.08**

Digital Multimeter Classpack of 16

A classpack of 16 Voltcraft VC130 Digital LCD Multimeters in a deep Gratnell's Tray with lid.

- Perfect storage solution for classroom multimeters
- Multimeters are held in place by a slotted foam sheet

Only £11.25 per meter

Order code 86-1090   **£179.99**

48W Adjustable Temperature Analogue Soldering Station

Anvil Hand tools

This no-nonsense, low-cost soldering station is ideally suited to applications where durability, physical size and budget are the main concerns. The included 48W iron is ideal for both traditional and lead-free solders.

Order code 85-5900
Price each 1+
£14.39

Order code 85-5900
Price each 10+
£13.49

● Adjustable temperature from 150 to 450°C

The soldering iron may give off non-hazardous fumes for approximately 30 minutes on first use.

ST-60 Premium Intelligent Soldering Station 60W

A modern, ergonomically-styled 60W digital soldering station incorporating the features demanded by today's soldering techniques and energy-saving requirements.

Order code 85-6924
Price each 1+
£78.99

● 3 buttons to quickly store and retrieve frequently used temperature values
● Microprocessor controlled temperature calibration for increased accuracy
● Smart recognition of in-use and idle status
● Intelligent cooling and temperature recovery
● Automatic standby and shutdown for safety and extended life
● Well designed menu for simpler system setting
● Analogue status bar indicates heating up status
● Temperature lock for production line management
● Adjustable standby and shutdown time for energy saving
● Audible button Touch-tone with on/off control
● Low-voltage iron heater completely isolated from the power supply
● Pack includes: base station, soldering iron, iron stand, power cord, cleaning sponge and instruction manual
● **Atten type ST-60**

CS18W 230V Lead Free Soldering Iron with PVC Cable and 13A Plug

Order code 85-1130
Price each 1+
£19.49

Order code 85-1130
Price each 5+
£17.49

CS18W 230V Lead Free Soldering Iron with Silicone Cable & 13A Plug

Order code 85-1135
Price each 1+
£19.79

XS25W 230V Soldering Iron with PVC Cable and 13A Plug

Order code 85-1140
Price each 1+
£19.49

Order code 85-1140
Price each 5+
£17.49

XS25W Soldering Iron 230V with Silicone Cable and 13A Plug

Order code 85-1145
Price each 1+
£19.99

Education

Soldering

200GX 25W Soldering Iron 240V with 13A Plug

XYTRONIC

Order code 85-0640
Price each 1+
£13.46

Order code 85-0640
Price each 5+
£12.66

Order code 85-0640
Price each 10+
£11.13

Anvil Hand tools

Desoldering Pump

Order code 85-0601
Price each 1+
£3.79
Price each 10+
£3.59
Price each 50+
£3.29

Desolder Braid Solder Remover

1.5mm x 1.5m
Order code 85-0614
Price each 1+
£0.99
Price each 25+
£0.89

2.5mm x 1.5m
Order code 85-0627
Price each 1+
£1.09
Price each 25+
£0.99

PERIODIC TABLE

Common components

Robotics in **STEM** Education

AN INTRODUCTION TO SOLDERING

Resistors **Capacitors**

www.rapidonline.com

FREE DESIGN & TECHNOLOGY & SCIENCE POSTERS
Email education@rapidonline.com for your pack

60/40 Tin/Lead Flux-Cored Solder Wire

A high grade solder wire containing 60% tin and 40% lead, available in a wide variety of diameters and reel sizes.

● Melting temperature 190°C
● Recommended minimum bit temperature 300°C
● Rosin activated flux manufactured to **JISZ3283**

Please note: This product contains lead and rosin.

Type	Order code	1+	5+	10+
100g 22SWG solder	85-0592	£4.49	£4.29	£3.99
500g 22SWG solder	85-0595	£19.49	£18.39	£17.29
500g 18SWG solder	85-0610	£19.49	£18.39	£17.29
2kg 18SWG solder	85-0615	£54.15	£51.83	

030236

Lead-free Solder Wire

Rapid high purity lead-free tin/copper solder is a cost-effective and versatile alternative to conventional lead solder and is suitable for all but the most demanding general purpose applications.

● Tin alloy with 0.7% copper
● Flux cored
● Melting point 227°C

Type	Order code	1+	5+	10+
19SWG 12g tube	85-1165	£2.49		
18SWG 100g reel	85-1162	£4.89	£4.39	£3.89
18SWG 500g reel	85-1164	£23.99	£22.89	£20.49
22SWG 100g reel	85-1166	£4.89	£4.49	£4.29
22SWG 500g reel	85-1168	£24.39	£23.39	£22.39

072696

DURACELL®
Alkaline Manganese Dioxide Batteries, AA, AAA, C, D, PP3

A range of Industrial Duracell Alkaline-Manganese Dioxide Batteries. These Duracell batteries will provide you with the quality power that you know and trust from Duracell, at a great price.

Consumers want a battery they can trust, to serve as the heart of their devices, and Duracell has a reputation for going on long after their rivals have stopped. These batteries can be used in a wide variety of equipment including torches, flashlights, safety equipment (such as gas detectors), microphones, communication devices, measuring and medical instruments.

Whether you are powering the ordinary devices you use most often or those that are most critical to your job, Duracell has alkaline batteries engineered to suit your professional needs.

- Designed and packaged for wholesale and professional trade customers
- Non rechargeable (Alkaline)
- Suitable to a wide range of applications
- Higher energy content than zinc carbon
- Available in packs of 10 and 100
- Available in AA, AAA, 'C' cell, 'D' cell and PP3 battery sizes

Type	Voltage	Quantity	Order code	1+	10+
AA – LR6	1.5	10	18-3341	£3.61	£3.19
AAA – LR3	1.5	10	18-3342	£3.24	£2.88
C Cell – LR14	1.5	10	18-3343	£7.83	£7.00
D Cell – LR20	1.5	10	18-3344	£9.79	£8.86
PP3 – 6LR61	9.0	10	18-3345	£11.85	£10.40
D Cell – LR20	1.5	100	18-3347	£86.52	

547598

GP Batteries
Ultra Alkaline AA and AAA Batteries
Packs of 24 or 40

These **batteries** from **GP** are the ideal choice for devices such as digital cameras, audio players, toys and torches. They have been specially formulated to meet the increasing demands of today's new generation of power hungry devices and are both inexpensive and give plenty of power.

They offer higher energy capacity, better high and low temperature performance, and longer-term storage.

- For use with all high drain devices
- Long shelf life
- Positive terminal clearly marked
- Power rating 1.5V
- Available in two of the most popular sizes: AA and AAA
- Supplied in **packs of 24 or 40**

Battery size	Pack size	Order code	1+	10+
AA	24	18-2107	£6.10	£5.55
AA	40	18-2112	£10.12	£9.08
AAA	24	18-2108	£6.10	£5.55
AAA	40	18-2113	£10.12	£9.08

524127

AA Pack of 4
Order code **51-2129**
£0.907

AA Pack of 24
Order code **51-2127**
£4.80

HW.
Zinc Chloride - AA, AAA, C Cell, D Cell & PP3 Batteries

A range of super heavy duty zinc chloride batteries that have been designed to provide long lasting energy to all your devices with constant low power consumption. The batteries are available in AA, AAA, C cell, D cell and PP3 batteries.

- Non rechargeable
- Mercury-free
- Cadmium free
- Suitable for a wide range of applications
- Available in **AA, AAA, C cell, D cell & PP3**
- **CE** approved

Technical specification

Order code	Mftrs Part No.	
18-1440	ER03X	AAA Battery
18-1442	ER6MX	AA Battery
18-1444	ER14MX	C Battery
18-1446	ER20MX	D Battery
18-1448	E6F22MX	PP3 Battery

MOQ 4 – Sold in Multiples of 4

Type	Order code	4+	20+	100+
AAA Battery	18-1440	£0.229	£0.155	£0.107
AA Battery	18-1442	£0.265	£0.168	£0.119
C Battery	18-1444	£0.332	£0.275	£0.215
D Battery	18-1446	£0.586	£0.394	£0.334
PP3 Battery	18-1448	£0.54	£0.346	£0.285

080144

GP Batteries
PP3 Zinc Chloride Batteries

The GP Greencell GP1604G is a Mercury Free Zinc Chloride PP3 Type Battery that can be used in all domestic devices. This reliable battery is best for devices that do not require much power. It provides good value for price conscious customers. Applications: Fire alarms, CD players, radios, toys, and clocks.

- Voltage: 9V
- Mercury Free
- Reliable power
- Weight: 36g
- Dimensions: 48.5(L) x 17.5(D) x 26.5(W)mm
- Supplied as PP3 Type
- Supplied singularly

Type	Order code	1+	10+	40+	200+
PP3	18-1058	£0.545	£0.424	£0.382	£0.347

062227

GP Batteries
Lithium Coin Cell Batteries

A range of lithium manganese 3V coin cells.

- Non-rechargeable
- Operating temperature –20°C to +60°C
- Used in miniature electronic equipment, calculators and watches
- PCB versions are ideally suited to memory backup applications

Type	V	Capacity	Size (hxø)	Weight	Order code	1+	25+
CR1220 pack of 5	3V	36 mAh	2 x 12	0.8g	18-0363	£4.10	£3.10
CR1616 pack of 5	3V	50 mAh	1.6 x16	1.2g	18-0367	£4.58	£3.98
CR1620 pack of 5	3V	78 mAh	2 x 16	1.2g	18-0377	£5.88	£4.93
CR2016 pack of 5	3V	75 mAh	1.6 x 20	1.7g	18-0486	£4.42	£3.52
CR2032 pack of 5	3V	220 mAh	3.2 x 20	3.1g	18-0493	£2.93	£2.21
CR2430 pack of 5	3V	280 mAh	3 x 24.5	4.0g	18-0374	£6.29	£4.89

074895

Alkaline AA Batteries

An essential in the kitchen drawer of every household. These excellent value alkaline AA batteries from Conrad Energy offer the quality and endurance you would expect from premium brands at an unbeatable price. AA batteries are the most commonly used battery in the world, so keeping a few spare around the house is always a good idea. They are available in packs of 4, and also in money-saving packs of 24.

- High quality
- Rating: 1.5V
- Alkaline batteries maintain their charge longer than rechargeable batteries
- Available in **packs of 4** and also in money saving **packs of 24**

Trupower

Battery Clips for PP3 Batteries

These battery clips suit PP3 and PP6 type 9V batteries.

- Lead length 150 or 200mm

Technical specification

Order code	Wire length
18-0105	150mm
18-0106	200mm

MOQ 10 – In Multiples of 10

Type	Order code	10+	100+	1000+
150mm	18-0105	£0.177	£0.142	£0.129
200mm	18-0106	£0.244	£0.196	£0.178

062283

Trupower

Heavy Duty PP3 Battery Clips with Stripped and Tinned Ends

A heavy duty battery clip with wires entering the cover at one end.

- The hard moulded ABS cover makes the clip more robust
- Fitted with colour coded 150, 200 or 300mm leads with stripped and tinned ends

Technical specification

Order code	Mftrs Part No.	
18-0092	BS-IR-1	End entry 150mm
18-0093	BS-IR-1-200	End entry 200mm
18-0097	BS-IR-1-300	End entry 300mm

MOQ 10 – In Multiples of 10

Type	Order code	10+	100+
End entry 150mm	18-0092	£0.24	£0.19
End entry 200mm	18-0093	£0.25	£0.179
End entry 300mm	18-0097	£0.36	£0.295

062284

Trupower

PP3 Battery Holder with Flying Leads

A 9V battery holder with 150mm flying leads.

- Ideal for many applications
- Male and female snap-in terminals assure positive contact and correct polarity
- Positive and negative legends clearly marked
- Withstands severe shock and vibration
- Moulded from black thermoplastic
- Incorporates screw fixing holes

MOQ 5 – In Multiples of 5

Type	Order code	5+	25+	100+
PP3 Battery holder	18-0163	£0.347	£0.26	£0.225

078026

Volume pricing

Need to buy larger quantities?
Contact us now for a
volume pricing quotation
01206 751166

Trupower

Battery Holders with Flying Leads

1x N   1x AA   2x AA   2x AAA

A range of battery holders with red and black flying leads for quick connection to equipment.

- Ideal for volume production applications
- Moulded in black thermoplastic
- Lead length 150mm

**MOQ 5 - Price each in Multiples of 5**

Type	Order code	5+	25+	100+
1x N	18-0123	£0.336	£0.252	£0.176
1x AA	18-0121	£0.336	£0.251	£0.193
2x AA	18-0122	£0.368	£0.273	£0.214
2x AAA	18-0124	£0.336	£0.252	£0.21

062273

Trupower

Battery Boxes with Covers

Enclosed AAA and AA size battery boxes with detachable lids, moulded in black ABS.

- Lids may be secured with the small screws provided
- Terminated in red and black stranded 26AWG wires approx. 150mm long
- Also available with fitted miniature On/Off switch wired into the black (negative) wire
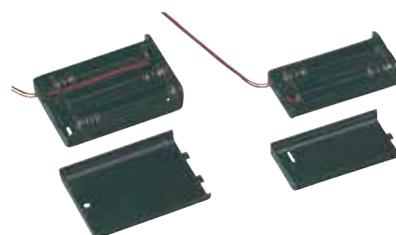
MOQ 5 - In Multiples of 5

Type	Order code	5+	25+	100+	500+
2x AAA With Switch	18-2900	£0.71	£0.566	£0.514	£0.488
3x AAA With Switch	18-2901	£0.851	£0.672	£0.611	£0.579
4x AAA With Switch	18-2902	£0.903	£0.709	£0.628	£0.606
2x AAA	18-2903	£0.504	£0.381	£0.339	£0.321
3x AAA	18-2904	£0.683	£0.495	£0.45	£0.427
4x AAA	18-2905	£0.663	£0.53	£0.482	£0.468
2x AA With Switch	18-2906	£0.795	£0.636	£0.579	£0.549
3x AA With Switch	18-2908	£1.07	£0.817	£0.675	£0.64
4x AA With Switch	18-2909	£0.995	£0.796	£0.724	£0.699
2x AA	18-2910	£0.575	£0.46	£0.418	£0.396
3x AA	18-2912	£0.903	£0.709	£0.547	£0.518
4x AA	18-2913	£0.882	£0.709	£0.563	£0.534

062278

Trupower

AA Cell Battery Holders

A comprehensive range of battery holders manufactured from quality black thermoplastic moulding and metal components to ensure a secure and reliable connection.

- Holder range caters for battery sizes AA accommodating 1, 2, 3, 4, 6, 8 or 10 cells
- Available with either press stud and solder tag fixing
- Principle applications include portable equipment and memory back-up.

MOQ 5 - In Multiples of 5

Type	Order code	5+	25+	100+
1x AA Solder tag	18-0150	£0.294	£0.217	£0.178
2x AA Press stud	18-0125	£0.336	£0.252	£0.21
3x AA Press stud	18-0126	£0.651	£0.489	£0.347
3x AA Solder tag	18-0127	£0.494	£0.41	£0.354
4x AA Press stud	18-0110	£0.546	£0.423	£0.306
4x AA Press stud	18-0115	£0.567	£0.425	£0.303
6x AA Press stud	18-0120	£0.756	£0.572	£0.467
8x AA Press stud	18-0128	£0.777	£0.595	£0.482

073629

18-0125
2 x AA
L59, W25

18-0126
3 x AA
L58, W 48.3

18-0110
4 x AA
L11, W25

18-0115
4 x AA
L59, W30

18-0120
6 x AA
L61, W45

18-0128
8 x AA
L109, W32

18-0143
10 x AA
L80, W60

≡Rapid

…where price meets quality

≡RVFM

D Cell Battery Holder

A battery holder to take up to four D size batteries.

- Batteries are linked in series
- 4mm sockets are connected to each 1.5V division allowing the user to select 1.5V, 3.0V, 4.5V or 6V
- The individual D cell holders are securely mounted to a rigid Perspex back plate
- Ideally suited to electricity/basic electronics teaching

Type	Order code	1+	10+	25+
D cell holder	18-3722	£13.90	£12.73	£12.07

062281

BARE CONDUCTIVE

Electric Paint

50ml Jar
Order code **70-0874**
£13.99

Bare Conductive Electric Paint is conductive which means that electricity from the battery can pass through it just like a wire. When you draw a circuit with a Bare Electric Paint Pen, the components and battery are joined together by the paint and make a complete loop, or circuit.

Bare Electric Paint is non-toxic, solvent-free and dries at room temperature.

- Draw a circuit on almost any surface: Paper, plastic, cardboard, fabric, wood, and more!
- Connect batteries, LEDs and other components
- Try it with microcontrollers like Arduino
- Can be used with conductive thread and e-textiles
- Great for attaching components and for PCB repair
- Can be used as a Cold Solder and Wire Paint
- Non-toxic and solvent free
- Dries at room temperature
- Available in **10ml pens** and **50ml jars**

For further information, image gallery, data sheets and downloads visit **www.rapidonline.com**

10ml Pen
Order code **70-0873**
£4.49

Flashing Cards Classpack

Only
£1.69
per student

Makes 30 flashing cards!

The Robot Parade Flashing Card Pack provides an engaging group activity for teaching students of all ages how electricity flows through circuits and introducing simple circuit design.

The pack contains everything you need to lead a group of up to 30 students through an activity to create a simple circuit using Electric Paint - a unique electrically conductive paint from Bare Conductive. Students will be introduced to circuit symbols, component polarity and have the opportunity to attach a LED and coin cell battery to bring their own blinking robot card to life!

Great for use at home, in the classroom or at after school clubs.

Supports STEM and Design & Technology curriculum.

- **Pack contains:** 1x Step-by-step instructions
- 10x Electric Paint pens
- 30x Robot colouring card templates
- 30x 3V coin cell batteries
- 30x flashing LEDs (red, yellow and green)

Classpack
Order code **70-0875**
£50.46

Conductive Thread

182m of highly conductive thread that is ideal for introducing electronics into textile projects. The thread looks and behaves like conventional sewing thread with the added bonus of being highly conductive.

- Conductive thread on a 182m reel
- Thread has a resistance of approximately $0.4\Omega/cm$, or $12\Omega/foot$
- Resistance does not vary significantly from one length of thread to the next as some are reported to do, so you should be able to use this thread without concern for "dead" sections
- The thread has a breaking strain of around 4.2kg (9.3 pounds)
- It comprises roughly 96 individual filaments, each coated with a micron-thick layer of natural silver. 16 of these filaments are wound together to form an initial twist; two of these twists are then twisted together, and finally three of these twists are combined
- In thread terms, thickness is approximately 18 denier
- This thread does not fray: there are no loose ends of filaments except where they have been cut

182m Reel
Order code **87-6111**
£27.76

Easy-Sew Battery Holder with Switch

The Light Stitches Battery Holder with Switch has been designed to make E-textiles even easier. It has a small slide switch located on the circuit board for controlling the power to your Light Stitches projects.

- Controls power to your Light Stitches project
- Built-in small slide switch
- Large holes for easy attachment of conductive thread
- Takes a standard 3V, CR 2032 lithium coin cell battery

Battery holder + switch
Order code **87-6157**
£1.64

Light Stitches
E-Textiles for Education

For more information, visit our Light Stitches minisite at **www.rapidonline.com/ lightstitches**

Only
£4.12
per kit

Flashing LED Pencil Case Project Kit Classpack

A KS3 textile and electronics project that uses smart textiles and electronic components to create a flashing LED pencil case.

The Flower pencil cases are made from felt and adhesive backed felt. Using the latest breakthrough in smart textiles, a conductive thread that looks and behaves like conventional thread is used with electronics in place of wires. The pencil case uses 2 flashing green LEDs for a visual display. These LEDs can be activated when the zip is closed (Zip acts as a switch turning the LEDs ON/OFF).

Large and small flower stencils are included in the class pack along with full instructions on cutting out all shapes.

- Includes all components and materials to make 30 flashing green LEDs pencil cases
- KS3 design and make project aimed at year 8s so it is also suitable for lower ability Year 9s and higher ability year 7s
- Due to this NEW smart material (conductive thread) connections can now be produced by a simple knot or sewing around the LEDs (Lights)
- No soldering involved. The thread looks and behaves like conventional thread with the added bonus, that if the thread breaks the two ends can be tied together and it still works perfectly
- Booklet includes all information needed including full 10 week scheme of work, lesson plans, and all the printable resources needed for those lessons
- Booklet shows in detail how to turn metal textiles materials like zips, press studs, etc., into switches
- Used by various textile consultants and due to its simplicity, and currently being used throughout education from Primary to University

Classpack
Order code **87-6108**
£123.59

Education

Textiles

Artstraws Ltd.
Assorted Coloured Felt Sheets Pack

A pack of 30 assorted coloured felt sheets approximately 297 x 200mm.

● 8 colours
● Approx. size 297 x 200mm
● Supplied as a **pack of approximately 30 sheets**

Order code **06-7578**

£4.42

RVFM
Polyester Fibre Filling

Washable polyester fibre, ideal for a wide range of textile projects.

● Fire-safe and non-allergenic
● **EN71** toy safe
● Complies with **BS5665**
● Supplied in **packs of 450g**

Order code **06-0440**

£2.72

RVFM
Steel Dressmakers' Pins – 30mm 40g

These value-for-money 30mm steel dressmaking pins are ideal for textiles and haberdashery.

● Extra fine
● Hardened & tempered
● Supplied in **tubs of 40g**

Order code **06-0307**

£1.88

RVFM
Sewing Thread

Order code **06-0416**

£4.71

Pack of 20 100m bobbins of assorted colour polyester thread.

MAJOR BRUSHES
Electric 300ml Batik Pot

This Electric Wax Melting Pot has a 0.3 litre melting cup with non-drip rim and graded temperature control.

● Maximum temp. 135°C
● Overheat protection
● Sturdy plastic casing
● Height 100mm
● Diameter 200mm (inc. handles)
● 230V AC/50Hz/300W
● Safety tested & CE marked

Order code **06-1073**

£71.02

COLOURCRAFT
Colours & Adhesives Ltd, Sheffield
Colourcraft Liquid Batik Dye

These liquid batik dyes can be used directly from the bottle for vibrant colours or diluted with water for a range of tones.

● Colours include: black, turquoise, cerise and lemon yellow
● Supplied in packs of **4 x 300ml colours**

Order code **06-1066**

£14.37

MAJOR BRUSHES
Batik Paraffin Wax Pellets

Paraffin wax supplied in pellet form making it easy to measure, pour and melt. It is ideal for making candles and when mixed with beeswax it is also great for batik work.

● Melting point approximately 54°C
● Supplied in **500g packs**

Order code **06-1075**

£2.77

MAJOR BRUSHES
Economy Tjanting Tools

These economy tjanting tools are ideal for applying wax to fabric for batik work.

● Wooden handle with chrome plated tapered barrel
● 1mm diameter spout soldered to the barrel
● Long straight barrel allows easy control over the flow of wax
● Overall length 180mm
● Diameter 14mm
● Supplied in a **pack of 3**

Order code **06-1081**

£6.58

RVFM

PVC and Styrofoam Modelling Foam

Fantastic range of modelling foams, ideal for design and build projects.

- Foam sheets are 1220 x 610 x 3mm
- Styrofoam sheets are 600 x 1219mm and are available in either 25 or 50mm thicknesses
- Foam supplied in **packs of 5**
- Styrofoam **supplied singly**

Note: colours may vary.

Type	Order code	1+
Foam 3mm	06-0152	£62.25
Styrofoam 25mm	06-0154	£19.31
Styrofoam 50mm	06-0156	£27.18

066027

RVFM

Corriflute Corrugated Plastic Board

Polypropylene corrugated board is often referred to by the trade name Correx. It is a lightweight, tough material, which is easy to cut using a craft knife. The material can be joined using a wide variety of techniques, from gluing and stitching, through to fastening with click rivets or Corri-Joiners (see below).

- Sheets have large internal channels offering good rigidity
- Sheets are 605 x 605 x 4mm
- Pack contains 4 each of Blue, Black, Green, Red and Yellow

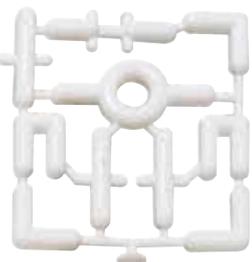| Pack of 20 sheets Order code 37-3325	£45.14

RVFM

Joiners for Corrugated Plastic Sheets

Joiners for use with 4mm corrugated plastic sheet material.

- The joiners simply push-fit into the flutes of the sheet, to produce butt joints and right-angle joints, and for fixing axles, etc.
- Supplied in **packs of 10 sets** (100 joiners)
- For use with order code **37-3325**

Pack of 100 joiners Order code 37-3320	£3.49

MAJOR BRUSHES

Moreform Modelling Plastic (Polymorph)

Polymorph is one of a new generation of polymers with all the characteristics of a tough, machinable engineering material, yet it fuses and becomes easily mouldable between 30°C and 62°C.

- Can be simply heated with hot water or a domestic hairdryer
- Mould by hand to create prototypes or solve manufacturing problems currently outside the capacity of other materials
- Applications include: moulding handles and orthopaedic aids, vacuum forming moulds, repairs, modelling, sculpture, stands and mounts, etc.
- Non-hazardous, biodegradable and can be used over and over again
- Supplied in granular form in packs of 0.5 and 1kg
- Supplied complete with application notes
- The material was pioneered for use in schools by the Technology Enhancement Programme (TEP)
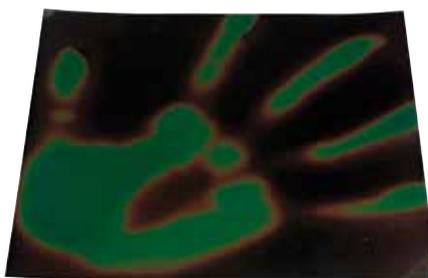
500g Order code 87-0091	1kg Order code 87-0093
£10.19	£20.18

RVFM

Thermocolour Sheet

A self-adhesive 150 x 150mm sheet printed with a thermochromic liquid crystal ink which changes colour when heated above 27°C.

A sample pack is also available, containing a 50 x 150mm thermocolour sheet and a 1m length of resistance wire which can be attached to the back of the sheet and used as a heating element when a small current is passed through it.

- Use as a heat or temperature indicator
- Heat sensitive jewellery
- Advertising displays and signs
- Information pamphlet with sample pack

Thermocolour sheet Order code 06-1270	Sample pack Order code 06-1272
£5.20	£3.62

Same day despatch GUARANTEED!
On all orders for in-stock items placed between 8am and 7pm, Monday to Friday

RVFM

HIPS – High Impact Polystyrene Sheet

A range of High Impact Polystyrene (HIPS) sheets in a range of colours and sizes.

- Sheets can be used as conventional flat material, or are sized for economic use in **vacuum forming** machines
- Virgin grade for consistency of moulding
- The 1mm white HIPS offers a cost-effective method for students to prototype their designs prior to manufacture in a thicker material
- It has the added advantage that students can paint the finished moulding
- Supplied in **packs of 10** sheets of a single colour and size

Tolerance ±1.5mm.

Technical specification
457 x 254mm sheets are suitable for: Clarke's 725 and 917, SATRO 330 and 329
457 x 305mm sheets are suitable for: Formec 300X, Clarke's 1210 (2 sheets)

| Type	Order code	1+
1mm thickness		
1mm 457 x 254 red	37-3100	£8.93
1mm 457 x 254 blue	37-3102	£8.93
1mm 457 x 254 green	37-3104	£8.93
1mm 457 x 254 yellow	37-3106	£8.93
1mm 457 x 254 white	37-3148	£7.62
1mm 457 x 254 black	37-3150	£7.62
1mm 457 x 254 clear	37-3178	£12.23
1mm 457 x 305 red	37-3108	£10.28
1mm 457 x 305 blue	37-3110	£10.28
1mm 457 x 305 green	37-3112	£10.28
1mm 457 x 305 yellow	37-3114	£10.28
1mm 457 x 305 white	37-3152	£8.24
1mm 457 x 305 black	37-3154	£8.24
1mm 457 x 305 clear	37-3174	£12.94
1.5mm thickness		
1.5mm 457 x 254 red	37-3116	£12.55
1.5mm 457 x 254 blue	37-3118	£12.55
1.5mm 457 x 254 green	37-3120	£12.55
1.5mm 457 x 254 yellow	37-3122	£12.55
1.5mm 457 x 254 white	37-3156	£10.23
1.5mm 457 x 254 black	37-3158	£10.23
1.5mm 457 x 254 clear	37-3180	£15.74
1.5mm 457 x 305 red	37-3124	£13.74
1.5mm 457 x 305 blue	37-3126	£13.74
1.5mm 457 x 305 green	37-3128	£13.74
1.5mm 457 x 305 yellow	37-3130	£13.74
1.5mm 457 x 305 white	37-3160	£11.54
1.5mm 457 x 305 black	37-3162	£11.54
1.5mm 457 x 305 clear	37-3176	£18.26
1.5mm 900 x 600 black	37-3163	£42.79
2mm thickness		
2mm 457 x 254 red	37-3132	£15.32
2mm 457 x 254 blue	37-3134	£15.32
2mm 457 x 254 green	37-3136	£15.32
2mm 457 x 254 yellow	37-3138	£15.32
2mm 457 x 254 black	37-3182	£14.79
2mm 457 x 305 red	37-3140	£16.73
2mm 457 x 305 blue	37-3142	£16.73
2mm 457 x 305 yellow	37-3146	£16.73

036628

Cast Acrylic Solid Colour Sheets

These **cast acrylic sheets** from Perspex® are available in a choice of sizes and in a range of vibrant, **bright colours.** These coloured sheets will make any project get noticed – whether it's a sleek storage unit, a specialist point of sale display or a new corporate identity. With excellent resistance to outdoor weathering, unsurpassed batch-to-batch colour consistency and excellent environmental credentials, Perspex® Solid colours will help you bring your creative ideas to life.

Other colours available from Rapid on request.

Size (mm)	Colour	Order code	1+
600 x 400 x 3	Red	37-3701	£4.90
600 x 400 x 3	Blue	37-3702	£4.90
600 x 400 x 3	Green	37-3703	£4.45
600 x 400 x 3	Yellow	37-3704	£4.45
600 x 400 x 3	Black	37-3705	£4.45
600 x 400 x 3	Orange	37-3706	£4.45
600 x 400 x 3	White	37-3707	£4.45
600 x 400 x 3	Violet	37-3708	£4.45
600 x 400 x 3	Pink	37-3709	£4.45
600 x 400 x 3	Opal	37-3710	£4.45
600 x 400 x 5	Red	37-3712	£7.99
600 x 400 x 5	Blue	37-3713	£7.80
600 x 400 x 5	Black	37-3716	£7.99
600 x 400 x 5	Orange	37-3717	£8.85
600 x 400 x 5	White	37-3718	£7.99
600 x 400 x 5	Pink	37-3719	£8.85
600 x 400 x 5	Opal	37-3720	£8.85
1000 x 500 x 3	Red	37-3722	£11.95
1000 x 500 x 3	Blue	37-3723	£11.95
1000 x 500 x 3	Green	37-3724	£11.95
1000 x 500 x 3	Yellow	37-3725	£11.95
1000 x 500 x 3	Black	37-3726	£11.95
1000 x 500 x 3	Orange	37-3727	£11.95
1000 x 500 x 3	White	37-3728	£8.99
1000 x 500 x 3	Violet	37-3729	£8.99
1000 x 500 x 3	Pink	37-3730	£8.99
1000 x 500 x 3	Opal	37-3731	£8.99
1000 x 500 x 5	Red	37-3733	£17.29
1000 x 500 x 5	Blue	37-3734	£18.44
1000 x 500 x 5	Green	37-3735	£18.44
1000 x 500 x 5	Yellow	37-3736	£18.44
1000 x 500 x 5	Black	37-3737	£17.29
1000 x 500 x 5	Orange	37-3738	£13.15
1000 x 500 x 5	White	37-3739	£18.44
1000 x 500 x 5	Pink	37-3740	£13.15
1000 x 500 x 5	Opal	37-3741	£18.44

553998

Cast Acrylic Clear Sheets
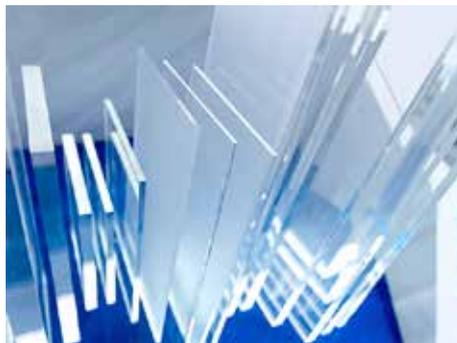
These clear **cast acrylic sheets** from Perspex® transmit 92% of all visible light – that's better even than glass. Add to this excellent resistance to outdoor weathering, high tensile strength and rigidity, light weight and resistance to impact and it is easy to see why **Perspex® Clear** sheets are ideal for applications requiring critical visual performance and durability. Available in a range of sizes and thicknesses.

- High gloss, hard surface
- Easy to clean
- Long service life
- Safety glazing material meeting the requirements of **ANSI Z.97** and BS 6262
- Easy to thermoform with low-cost tooling

Size	Order code	1+
600 x 400 x 3mm	37-3700	£3.95
600 x 400 x 5mm	37-3711	£6.49
1000 x 500 x 3mm	37-3721	£8.25
1000 x 500 x 5mm	37-3732	£12.90

553997

Gammacril

Cast Clear Acrylic Rods

These **Gammacril cast acrylic round rods** from Perspex® are turned from square to produce diameters up to 25mm.

Final polishing ensures that Gammacril round rods have a highly polished and brilliant surface and give the best optical finish available.

- Available in **500mm lengths**

Diameter	Order code	1+
Length 500mm		
6mm	37-3823	£0.869
10mm	37-3825	£1.56
12mm	37-3826	£2.17
15mm	37-3827	£2.98
20mm	37-3828	£4.29
25mm	37-3829	£7.02

554002

Gammacril

Extruded Clear Acrylic Tubes

These clear **Esacril extruded acrylic tubes** from **Perspex®** are available up to 100mm in diameter and with a wall thickness of 2 or 3mm dependent on diameter.

- Available in **500mm lengths** (approx.)

Outside diameter	Inside diameter	Order code	1+
Length 500mm			
10mm	6mm	37-3810	£0.65
12mm	8mm	37-3811	£0.69
20mm	16mm	37-3813	£1.19
25mm	21mm	37-3814	£1.29
40mm	34mm	37-3815	£2.69
50mm	44mm	37-3816	£3.69
60mm	54mm	37-3817	£4.29
70mm	64mm	37-3818	£4.29
80mm	74mm	37-3819	£5.59
90mm	84mm	37-3820	£6.19

554001

Bostik

Tensol 12 Acrylic Cement

Bostik Tensol 12 Acrylic Cement is a single component cement which hardens due to solvent evaporation to produce a clear bond in cast acrylic sheets.

- Quickly and easily used direct from the bottle
- Excellent for edge bonding of acrylic sheet
- Offers good resistance to stress crazing, even on line-bent sections
- Produces high clarity, bubble-free bonds
- Supplied in a **500ml bottle**

Note:- This product is only recommended for indoor use.

Type	Order code	1+	6+
Tensol 12, 500ml	87-2330	£16.45	£15.59

123075

EVO-STIK

Extru-Fix Solvent-Based Acrylic Cement Adhesive

Evo-Stik Extru-Fix is a versatile, single-component cement suitable for general fabrication that doesn't require high bond strength. It is suitable for jointing items made of 'Diakron' acrylic polymers as well as 'Perspex'. It is especially suitable for bonding extruded acrylic sheet without stress crazing.

Evo-Stik Extru-Fix hardens as the solvent evaporates or is absorbed. The solvent softens the surfaces being bonded so that they fuse together, hardening as the solvents migrate to the body material. Evo-Stik Extru-Fix has been specially developed to reduce the problems of rapid drying and skinning common with other solvent-based cements.

Not suitable for outdoor applications. Cannot be used with 'Perspex' ME, SW or AG grades. Not suitable for fixing sheets of 'Perspex' face-to-face as crazing will occur.

Extru-Fix 500ml Order code **87-2338**	**£11.49**

Scheduled orders

Rapid will store your order FREE OF CHARGE and then deliver the required amount along with an individual invoice on your specified dates.

Email your scheduled order and required dates to:

education@rapidonline.com

Education

Resistant Materials

≡RVFM

Square Section Jelutong

Value packs of square section Jelutong in a range of sizes.

- Essential for model building
- 600mm lengths
- 8 x 8mm and 10 x 10mm supplied in **packs of 100**
- 12 x 12mm supplied in **packs of 50**

Type	Order code	1+
8 x 8mm (100)	06-0801	£16.26
10 x 10mm (100)	06-0757	£18.57
12 x 12mm (50)	06-0767	£11.64

300357

≡RVFM

MDF Sheets

300 x 600mm MDF sheets available in two thicknesses.

- Ideal for construction, 3D work and numerous D&T projects
- 3mm thickness supplied in **packs of 36**
- 6mm thickness supplied in **packs of 30**

3mm pack of 36 Order code **06-0755**	6mm pack of 30 Order code **06-0759**
£32.12	**£32.43**

≡RVFM

Plywood Sheets Classpack of 24

This birch plywood selection contains 24 sheets each measuring 300 x 600mm, in two thicknesses, 3mm and 6mm.

- Great for construction and design projects
- Supplied in **packs of 24 sheets**

Plywood pack of 24 Order code **06-0761**	**£38.52**

≡RVFM

Dowel

Bumper packs of wooden dowelling, ideal for axles, structures and buggy construction.

- High quality Ramin
- 600mm lengths
- Available in a wide range of diameters
- 6mm and below supplied in **packs of 100**
- 8mm and above supplied in **packs of 10**

Type	Pack size	Order code	1+
3mm	100	06-0763	£6.39
4mm	100	06-0765	£6.39
5mm	100	06-1197	£7.97
6mm	100	06-1299	£10.45
8mm	10	06-1201	£2.30
9mm	10	06-1199	£2.37
10mm	10	06-1203	£2.43
12mm	10	06-1205	£3.45
16mm	10	06-1207	£4.71
19mm	10	06-1209	£5.76
25mm	10	06-1211	£7.40

300354

≡RVFM

Thin & Thick Balsa Packs

Packs of Balsa in a range of thicknesses.

- Length 450mm
- 10x 1.6mm thick
- 5x 2.4, 3.2, 4.8 and 6.4mm thick
- Available in 75 and 100mm widths
- Supplied in **packs of 30** pieces

75mm width Order code **06-1221**	100mm width Order code **06-1225**
£16.47	**£17.73**

rolson
QUALITY TOOLS

Fine Thread G-Clamps

G-clamps with chrome-plated fine thread screws for accurate adjustment and hold.

- Malleable cast iron frames
- Reinforced shoulders
- T bar handle & swivel shoe
- Availablle with 50, 75, 100 and 150mm jaws
- **Rolson types 14202, 14203, 14204 & 14206**

Type	Order code	1+	5+	10+
50mm (2in.)	86-8654	£2.09	£1.99	£1.79
75mm (3in.)	86-8656	£2.99	£2.79	£2.59
100mm (4in.)	86-8657	£4.29	£4.09	£3.89
150mm (6in.)	86-8658	£6.89	£6.69	£6.49

178254

IRWIN.

Quick-Grip Trigger Bar Clamps/Spreaders

These Irwin Quick-Grip One-Handed Trigger Bar Clamps/Spreaders have been specially designed for fast, general purpose clamping. The clamps have a lockable swivel jaw that allows uneven surfaces to be clamped and ensures that pressure is evenly distributed.

- Jaws can be easily reversed without a tool to convert from clamp to spreader
- Free-sliding I-beam bar
- Lockable swivel jaw
- Low-recoil release mechanism
- 135kg clamping pressure
- **Irwin Quick Grip range**

Size	Order code	1+
150mm/6in.	86-7849	£14.61
300mm/12in.	86-7850	£16.34
605mm/24in.	86-7852	£20.64
910mm/36in.	86-7853	£21.24

519280

DRAPER

75mm Bench Vice

Cast iron with serrated curved jaws. Bench clamping screw 40mm capacity manufactured from zinc plated carbon steel. Display packed. Display carton.

75mm bench vice Order code **91-4564**	**£19.00**

MODELCRAFT
Aluminium Round Profile Bar

Round profile solid aluminium material bars with excellent turn and drill quality.

- Short chipping
- Range of sizes
- Dimensional tolerance 1.5%

Diameter	Length	Order code	1+
6mm	500mm	50-8628	£1.74
8mm	500mm	50-8629	£2.14
10mm	500mm	50-8632	£4.71
20mm	500mm	50-8633	£7.55
25mm	200mm	50-8630	£5.53
30mm	200mm	50-8634	£6.35
40mm	100mm	50-8625	£6.85
50mm	100mm	50-8626	£8.12
60mm	100mm	50-8627	£11.18

521147

MODELCRAFT
Copper Sheets 400 x 200mm

Modelcraft Half-Hard Copper Sheets 400 x 200mm in a range of thicknesses.

- Half hard temper
- Ideal for jewellery
- Thicker sizes can be drilled into to accept sheet metal screws
- Excellent hot and cold workability

Thickness	Order code	1+
0.3mm	50-7419	£8.94
0.5mm	50-7421	£11.34
0.8mm	50-7420	£15.77
1mm	50-7422	£18.63
1.5mm	50-7418	£29.09
2mm	50-7417	£35.27

520936

CARBOTEC
Carbon-Fibre Plates

These fine carbon-fibre sheets are characterised by their 3D effect and glossy appearance. They are constructed with aviation-grade epoxy resin.

The 2mm thickness sheets have a bi-directional structure with fibre layers at 0° and 90°. The 2.5mm and 3mm thicknesses have a quasi-isotropic structure with fibre layers at 0°/90°/+/-45°.

- Sheet size 350 x 150mm

350 x 350 x 2mm Order code **50-5190**	350 x 150 x 3mm Order code **50-5191**
£40.76	**£53.34**

TOOLCRAFT
Carbon Fibre Sheets 160g/m² 0.5m

This thin and firmly gripped Carbon Fibre laminate has a high tensile strength combined with low weight and high temperature capacity, surpassing most metal and fibre reinforced composites. The laminate is fully elastic, fatigue-resistant and vibration-damping.

- Weight 160g
- Supplied as a 1m x 0.5mm sheet

Plywood pack of 24 Order code **50-6379**	**£19.79**

RVFM
Aluminium Sheet

Essential basic material for the Design & Technology and Science classroom or workshop.

- Available in two thicknesses
- Size 500 x 500mm

Thickness	Order code	1+
0.8mm	06-0736	£8.39
1.2mm	06-0738	£12.27

066920

RVFM
Brass Sheets

Economical brass sheets, ideal for cutting, shaping and bending.

- Superb rich brass finish
- 0.1mm thick sheets

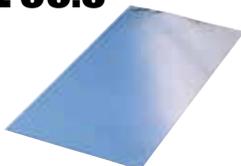| Size	Order code	1+
A4	06-0744	£5.71
A3	06-0746	£9.68

066922

MODELCRAFT
Half Hard Aluminium Sheets – AL 99.5

Single sheets of half-hard aluminium, in a range of thicknesses, for general modelling and construction use.

- Sheet size: 400 x 200mm
- Grade Al 99.5

Thickness	Order code	1+
0.3mm	50-7395	£2.80
0.4mm	50-7390	£3.30
0.5mm	50-7394	£3.01
0.6mm	50-7391	£3.95
0.8mm	50-7396	£3.87
1.5mm	50-7392	£5.80
1mm	50-7393	£4.40
2mm	50-7389	£7.97

520932

RVFM
Aluminium Tubing

Aluminium tubes available in 2 diameters.

- Length 330mm
- Great for construction projects
- 9mm tubing internal diameter 6.3mm
- 12.5mm tubing internal diameter 9.5mm

Diameters are approximate and may vary slightly.

Size	Order code	1+
9mm external x 6.3mm internal ø	06-0740	£3.03
12.5mm external x 9.5mm internal ø	06-0742	£3.45

066921

MODELCRAFT
Steel Threaded Rods 500mm

Modelcraft 500mm Steel Threaded Rods have been well designed with a thread that extends along the entire length of the rod, and can be used in a number of industries such as automotive, construction, electrical, engineering, maintenance and manufacturing.

Attention: Tolerance is only possible in dimension specification for up to 1.5%

MOQ 2

Type	Gradient	Order code	2+
M2	0.4	50-8921	£1.32
M3	0.5	50-8916	£0.926
M4	0.7	50-8917	£0.697
M5	0.8	50-8918	£0.697
M6	1	50-8919	£0.77
M8	1.25	50-8920	£1.07

521174

CARBOTEC
Carbon Fibre Rods

A wide range of Carbon Fibre Rods suitable for a range of applications including modelling and prototyping. The rods exhibit amazing dimensional precision and light weight. Telescopic action can be achieved by matching the diameter of the rods with a tube with the corresponding inner diameter.

- High breaking strength
- Light weight
- 100% full carbon
- Drawn
- Smooth Surface
- Fibres aligned in the longitudinal direction
- HT-Carbon fibre

Dia (mm)	Order code	1+	Dia (mm)	Order code	1+
Length 500mm			**Length 500mm**		
0.28	50-8879	£1.09	4	50-8871	£2.19
0.5	50-8876	£0.932	5	50-8872	£2.63
0.7	50-8880	£0.984	6	50-8873	£4.26
0.75	50-8877	£1.09	8	50-8874	£5.70
0.85	50-8881	£0.788	10	50-8875	£4.82
1	50-8868	£0.729	**Length 1000mm**		
1.5	50-8878	£0.867	1	50-8889	£1.25
1.8	50-8893	£0.92	1.5	50-8892	£1.46
2	50-8869	£1.12	2	50-8895	£2.05
2.5	50-8884	£1.32	3	50-8897	£2.89
3	50-8870	£1.54			

521170

Education

Adhesives

Bostik
Tensol 12 Acrylic Cement

Bostik Tensol 12 Acrylic Cement is a single component cement which hardens due to solvent evaporation to produce a clear bond in cast acrylic sheets.

- Quickly and easily used direct from the bottle
- Excellent for edge bonding of acrylic sheet
- Offers good resistance to stress crazing, even on line-bent sections
- Produces high clarity, bubble-free bonds
- Supplied in a **500ml bottle**
- **Bostik type 620803**

Note:- This product is only recommended for indoor use.

Type	Order code	1+	6+
Tensol 12, 500ml	87-2330	£16.45	£15.59

123075

Araldite professional adhesives
2x 15ml Glue Tubes

Araldite Rapid glue is a quick-setting version of the famous two-part epoxy adhesive, which bonds ceramics, wood, chipboard, glass, metal and most hard plastics. This specially formulated type of Araldite glue is a two-part fast setting epoxy adhesive prepared by mixing equal parts of resin and hardener. It is then applied to the parts to be joined and allowed to cure.

- Fast setting and very strong
- Solvent free
- Heat, cold, water and oil resistant
- Sets with virtually no shrinkage and joints are resistant to chemical attack
- Provides a seal which is impervious to moisture
- Ideal for electrically insulating and a protection against electrolytic corrosion
- Araldite Rapid is supplied in 2x 15ml tubes (one tube of adhesive and one tube of hardener)

Type	Order code	1+	6+	12+
Rapid 2x 15ml	87-4036	£5.26	£4.81	£4.42

077504

EVO-STIK
Evo-Stik Rapid Set

Evo-Stik Rapid Set is an ultra-strong two-part epoxy adhesive that gives a strong bond in seconds and sets in 5 minutes. It is ideal for use on ceramics, wood, chipboard, glass, metal, stone and most hard plastics. Evo-Stik Rapid Set is available in packs of 2x 15ml tubes (1 resin and 1 hardener) or a dual 25ml syringe that helps you mix exactly equal amounts of resin and hardener.

- 2-part epoxy resin
- Strong bond in seconds
- Sets in 5 minutes
- Use on ceramics, wood, chipboard, glass, metal, stone and most hard plastics
- Available in tubes or a syringe

Type	Order code	1+	6+
2x 15ml tubes	87-4037	£3.48	£3.16
25ml syringe	87-4039	£4.11	£3.81

502593

Classmaster™
Educational Gluesticks 40g

Premium super stick large gluesticks suitable for sticking paper, card and photos.

- Manufactured in Europe using PVP – this gives a shelf-life approximately 3 times longer than standard PVA gluesticks
- Ideal for children – non-toxic, acid-free, solvent-free and completely washable
- Suitable for sticking paper, card and photos
- Choice of pack sizes - standard tray of 56 or value large tray of 108

Classpack of 56 Order code **34-9914**	Classpack of 108 Order code **34-9916**
£30.90	**£59.73**

Anvil Hand tools
Hot Melt Glue Gun 25W 240V

The **Anvil hot melt glue gun** is an improved design glue gun suitable for industrial or educational use providing a trouble-free supply of tough adhesive. The gun has an electronically controlled heating element which melts the solid glue sticks inserted into the back of the gun.

- Smooth flow of adhesive is controlled by the trigger feed mechanism
- Double insulated construction with 25W element rated at 240V
- Suitable for a wide range of materials including most metals, PVC, plastics, glass, etc.
- Fitted with a UK plug fused at 3A
- **GS** approved

Glue gun 1+ Order code **87-0402**
£6.39

SEE BELOW FOR SUITABLE GLUE STICKS

Glue Sticks Standard Temperature Natural 11mm x 100mm Pack of 12

Type	Order code	1+	10+
100mm x12	87-0405	£2.24	£1.77

Glue Sticks Standard Temperature Natural 11mm x 300mm 1kg

Type	Order code	1+	10+
300mm 1kg packs	87-0410	£8.21	£7.67

brianclegg

Blue Label: Developed for younger children and formulated to wash extremely easily from clothes, brushes, work areas and hair, even once dry.

Red Label: A junior version of the premium Black Label PVA, exhibiting some of its characteristics, but with the advantage of being fully washable when dry.

Black Label: Dries to a very flexible, crystal clear finish. Can be mixed with paints without loss of colour intensity. Ideal for modelling, sticking, glazing and much more.

Washable Blue Label PVA Adhesive

Multi-purpose PVA adhesive ideal for use by younger children and formulated to wash extremely easily from clothes, brushes, work areas and hair, even when it has dried.

- Clear drying and water soluble, formulated to wash out of clothes
- Supplied in **5 litre** and convenient **180ml** dispensers

Type	Order code	1+
PVA adhesive 5L	87-6072	£6.17
PVA adhesive 180ml	87-6074	£0.711

071194

Washable Red Label PVA Adhesive

Ideal for general classroom use, this Red Label PVA glue adhesive exhibits some of the characteristics of premium Black Label PVA but with the avantage of being fully washable when dry.

- Fully washable
- Supplied in **5 litre and convenient 180ml** dispensers

Type	Order code	1+
PVA adhesive 5L	87-6022	£7.82
PVA adhesive 180mL	87-6024	£0.876

065394

Black Label PVA Glue

General purpose, Black Label PVA Adhesive which bonds a variety of materials from paper to light materials and wood. Dries to a very flexible, crystal-clear finish. Can be mixed with paints without loss of colour intensity. Ideal for modelling, sticking, glazing and much more.

- Non-washable medium glue
- Supplied in **5 litre** and convenient **180ml** dispensers

Type	Order code	1+
Black label PVA glue 5L	87-6076	£12.56
Black label PVA glue 180ml	87-6078	£0.979

071614

Bostik
Craft Glue Gun and Glue Sticks

The Bostik Craft Glue Gun is a low temperature glue gun giving high bond strength with the lowest possible glue melt temperature.

- Melting temperature 90°C
- Reduces the risk of serious burns
- Ideal for industrial applications where delicate components could be damaged
- Ideal for delicate fabrics, floristry, and model making etc.
- Easy trigger action
- Provides an even application
- Constant thermostatic control
- Retractable stand
- Bonds in seconds
- Low temperature glue sticks are available in **packs of 500g** (order code **87-4066**)
- Supplied with glue sticks, plug and stand
- **CE** approved

Craft glue gun Order code 87-4064	£12.25
11mm glue sticks Order code 87-4066	£5.04

ultratape
Masking Tape

A self-adhesive creped paper masking tape with rubber resin adhesive that is easily cut or torn as required, ideal for painting, surface protection and labelling.

- Suited to a wide variety of applications
- Available in widths of **19, 25** and **50mm**
- Supplied on **reels of 50m**

Size x 50m	Order code	1+	12+	24+
19mm	87-1926	£0.86	£0.82	£0.75
25mm	87-1927	£1.03	£0.97	£0.90
50mm	87-1928	£1.98	£1.94	£1.86

060215

ultratape
Double-Sided Tape

A lightweight, double-sided adhesive tape, manufactured from a thin transparent polypropylene film coated on both sides with a good quality high-tack rubber-based adhesive.

- Very high adhesion to metals, plastics, foam and paper
- Available in **12** and **25mm** widths
- Supplied on **33m reels**

Type	Order code	1+	12+	24+
12mm	87-1873	£1.08	£0.98	£0.87
25mm	87-1872	£1.70	£1.64	£1.53

060211

ambersil
Acrylic Paint and Primer

A wide selection of RAL matched colours and finishes, covering most applications, whether it is cosmetic repair, anti-corrosion treatments, or pipeline identification. Based on a tenacious resin bonding system, the paint combines excellent coverage with a hard wearing tough finish.

- Fast drying
- Good hardening
- Excellent flexibility
- High UV resistance once dry
- Good adhesion to metal, wood, glass, paintable plastics, concrete and stone
- Good covering ability
- Long lasting, intensive shine and colour
- Available in a variety of **RAL** matched colours
- A suitable grey primer is also available
- Supplied in **400ml aerosols**

Colour	RAL	Order code	1+	6+
Paint				
Chrome yellow	1007	87-7234	£6.07	£5.86
Yellow	1018	87-7104	£6.07	£5.86
Pure orange	2004	87-7240	£6.07	£5.86
Flame red	3000	87-7236	£6.07	£5.86
Red	3002	87-7106	£6.07	£5.86
Gentian blue	5010	87-7232	£6.07	£5.86
Blue	5015	87-7108	£6.07	£5.86
Emerald green	6001	87-7238	£6.07	£5.86
Green	6002	87-7096	£6.07	£5.86
Grey	7032	87-7098	£6.07	£5.86
Light grey	7035	87-7230	£6.07	£5.86
Gloss black	9005	87-7100	£6.07	£5.86
Satin black	9005	87-0174	£6.07	£5.86
Matt white	9010	87-7112	£6.07	£5.86
Matt black	9011	87-7102	£6.07	£5.86
Gloss white	9016	87-7110	£6.07	£5.86
Primer				
Red oxide primer	N/A	87-0172	£6.07	£5.86
Grey primer	N/A	87-7114	£6.07	£5.86

079297

PlastiKote
Multi-Purpose Enamel Spray Paint

Plastikote multi-purpose enamel spray paint is available in a range of colours including aluminium, gloss and matt finishes. Plastikote enamel spray paint is suitable for both indoor and outdoor use and is resistant against corrosion, chemicals, petrol and ultra-violet light. Innovative aerosol design enables Plastikote multi-purpose enamel spray paint to be sprayed at any angle to coat those awkward-to-reach surfaces that cannot be reached with a brush. Ideal for machinery, garden furniture, tools and much, much more.

- Suitable for interior and exterior use
- Can be sprayed at any angle
- Resists corrosion, chemicals, petrol and UV light
- Heat resistant up to 121°C
- Supplied in **400ml aerosols**

Type	Order code	Type	Order code
Gloss Black	87-2300	Gloss Green	87-2312
Matt Black	87-2302	Gloss Blue	87-2314
Gloss White	87-2304	Gloss Yellow	87-2316
Matt White	87-2306	Gloss Orange	87-2318
Gloss Red	87-2308	Gloss Aluminium	87-2321
Gloss Grey	87-2310	Grey Primer	87-2323

500392

Enamel Paint Price each	£5.87

RVFM
Hook & Loop Fasteners

Self-adhesive hook and loop fasteners available in circular dots.

- Available in a choice of black or white
- Ideal for lightweight, re-fastenable applications like battery mounts, holding small parts, exhibition
- Display boards, etc.
- Dots are supplied in **packs of 100**

Type	Order code	1+	5+	10+
12mm				
Hooks - white	87-2002	£2.61	£2.36	£2.15
Hooks - black	87-2004	£2.61	£2.36	
Loops - white	87-2006	£2.61	£2.36	£2.15
Loops - black	87-2008	£2.61	£2.36	
20mm				
Hooks - white	87-2012	£4.35	£4.00	£3.57
Hooks - black	87-2014	£4.35	£4.00	£3.57
Loops - white	87-2016	£4.35	£4.00	£3.57
Loops - black	87-2018	£4.35	£4.00	

066365

VELCRO
Stick On Rolls 20/25mm

These **stick on rolls 20/25mm** from **Velcro** have been designed for a host of uses and are simple to use - just cut the strips required, peel backing paper and press firmly to both surfaces. Items can then be secured, such as small tools, notice boards, access panels, remote controls and much more. A convenient, quick alternative to nails, screws and glues.

- Holds up to 500g per 20mm x 20mm
- 50cm hook and loop tape per pack
- Colours available: Beige, black or white
- Length ranges: 0.5m, 1m, 2.5m, 5m, 10m or 25m
- Width ranges: 20mm or 25mm

W x L	Colour	Order code	1+
20mm x 50cm	White	54-4298	£2.48
20mm x 50cm	Black	54-4299	£2.48
20mm x 2.5m	White	54-4302	£5.36
20mm x 2.5m	Black	54-4303	£5.36
20mm x 2.5m	White	54-4304	£6.75
20mm x 2.5m	Black	54-4305	£6.75
20mm x 10m	White	54-4306	£12.16
20mm x 10m	Black	54-4307	£12.16
20mm x 10m	Beige	54-4308	£14.67
20mm x 25m	White	54-4309	£31.17
20mm x 25m	Black	54-4310	£31.17
25mm x 25m	White	54-4311	£32.72
25mm x 25m	Black	54-4312	£43.26

537271

Original Re-Usable Adhesive

The original Blu-Tack with numerous uses around the office, home and school.

110g Order code 87-0425	£1.53
12x 55g Order code 87-0423	£6.68
12x 110g Order code 87-0428	£7.69

SALTER
Electronic Disc Kitchen Scale

- Weigh ingredients directly onto the scale or use your own bowl
- Capacity: 5kg/11lb
- Resolution 1g/0.1oz.
- Manufacturer's 15-year guarantee
- **Salter model 1036 BKSSDR**

Order code
52-7245
£11.83

KENWOOD
Hand Mixer 150W

Compact and durable, the HM220 Hand Mixer has 3 dedicated speeds for folding, mixing and whisking. The mixers feature comfort-fit moulded handles, full safety interlock and wrap-around cable storage.

Order code
52-9483
£14.45

Blender/Liquidiser

One touch control and compact size allows for easy operation. Includes a mini mill/chopper, capable of chopping herbs, nuts and spices.

- **Kenwood Model BL335**

Order code
52-9487
£25.96

sabichi
White Cordless Kettle

A 1.7 litre cordless kettle offering excellent value for money.

- Capacity 1.7 litre
- Dual water level gauge
- Detachable washable filter
- Safety lock lid
- Auto switch off
- Cordless
- White
- **Sabichi type 156396**

Order code
52-9494
£8.99

PYREX
Mixing bowls

Classic glass mixing bowls.

- Made of borosilicate glass
- Can withstand temperatures up to 300°C
- Available in **2 and 3 litre** capacities
- Manufacturer's 10-year guarantee

2 litre Order code 52-7182	3 litre Order code 52-7184
£3.29	**£4.11**

≡RVFM
Baking Parchment Paper Roll 18in. x 50m

Order code
52-9443
£6.04

This parchment paper has a non-stick silicone coating on both sides and is suitable for both cooking and freezing temperatures. The non-stick coating means that food is easily removed and the parchment can be re-used several times in oven temperatures up to 260°C (500°F).

≡RVFM
Catering Foil Containers and Lids

A selection of variously sized foil containers and lids that are suitable for a range of catering tasks such as food production and storage. When container and lid are used together they provide excellent heat retention.

- Range of sizes and lids

Size (mm)	Pack size	Order code	1+
146 x 120 x 41	1000	52-9436	£38.84
201 x 109 x 50	500	52-9438	£32.12
248 x 248 x 49	200	52-9440	£44.05
Lids			
146 x 120	1000	52-9437	£14.69
201 x 109	500	52-9439	£12.55
248 x 248	250	52-9442	£27.08

118202

≡RVFM
Tea Towels

A pack of 10 tea towels that are suitable for the school kitchen, home, etc.

- Ideal for food technology
- For use in schools, homes and all catering establishments
- Suitable for all ages
- Approximate size 47 x 70cm
- Supplied in **packs of 10**

Pack of 10
Order code **52-9456**
£6.25

≡RVFM
Catering Quality 30 x 23cm Small Chopping Board Set

These colour-coded chopping boards are a vital part of food preparation. Using colour-coding for knives and boards helps prevent cross-contamination.

- Made from high density plastic (polyethylene)
- Dimensions 30 x 23cm
- Please see Technical Specification for details of colours and useage
- Supplied as a set of 6 - 1 of each colour
- Also available separately

Order code
52-7217
£36.74

Technical specification

Colour	Use	Colour	Use
Blue	Raw fish	Red	Raw meat
Brown	Vegetables	White	Dairy products
Green	Salads & fruits	Yellow	Cooked meats

≡RVFM
46 x 30cm Standard Chopping Board Set

These colour-coded chopping boards are a vital part of food preparation. Using colour-coding for knives and boards helps prevent cross-contamination. Ideal for use in restaurants, school kitchens, Food Technology, or in the home kitchen, these colour-coded chopping boards are an easy and cost-effective way to ensure food safety and hygiene.

- Dimensions 46 x 30 x 1.2cm
- Also available separately

Technical specification

Colour	Use	Colour	Use
Blue	Raw fish	Red	Raw meat
Brown	Vegetables	White	Dairy products
Green	Salads & fruits	Yellow	Cooked meats

Order code
52-9473
£26.46

⟟RVFM

16cm 1.5 Litre Stainless Steel Saucepan and Lid

Order code
53-2452

£12.55

Other sizes available at **www.rapidonline.com**

⟟RVFM

30cm Frying Pan Black Iron

These non-stick 30cm frying pans are manufactured from high quality black iron. They have a design that ensures even heat distribution making them ideal for fast heat cooking.

Order code
52-9354

£9.95

● Extra long handle for safe, efficient use

⟟RVFM

28cm Non-stick Frying Pan

High quality 28cm diameter frying pan with non-stick coating.

Order code
52-7206

£7.86

⟟RVFM

Large Non-stick Oven Tray

A high quality baking sheet with a non-stick coating.

● 362 x 250 x 18mm
● Easy cleaning
● Dishwasher-safe
● Manufacturer's 2-year guarantee

Order code
52-7158

£2.26

Order online
Save time, and place your order at:

www.rapidonline.com
24 hours a day

⟟RVFM

Chefs Bib Apron with Navy Butchers Stripes

This smart Chef's Bib Apron is made from 100% cotton and polyester/cotton and has non-tangle herringbone ties.

● Length approx. 92cm
● Width approx. 70cm
● Navy blue stripes

Order code
52-1121

£6.35

⟟RVFM

Plain Oven Gloves

A set of plain white oven gloves that are vital when handling hot food receptacles.

Order code
52-9423

£2.09

● Essential for handling hot bakeware
● Size 180mm x 760mm (7in. x 30in.)

Education

Food Technology

Choosing the right 3D pen

paradime

Powered from a USB hub, power bank or mains adaptor

Uses any 1.75mm ABS or PLA filament

Supplied with:
• Mains adaptor
• USB cable
• Three small starter rolls

OLED screen

Variable temperature control

Unload filament button

Variable speed controller

Load filament button

130 to 240°C temperature range

£36.74
Order code 25-0150

Ceramic 0.6mm nozzle

3Doodler Create

Powered from a mains adaptor

Uses 3Doodler ABS and PLA filament

2x Temperature settings (adjustable with screwdriver supplied)

Supplied with:
• Mains adaptor
• 50x 3Doodle plastic strands
• 3x Maintance tools

Aluminium case

Fast/slow speed settings

£74.99
Order code 25-0062

Replaceable brass nozzle

3Doodler Start
DESIGNED FOR YOUNG CREATORS

Powered by built-in battery

Uses 3Doodler eco plastic (biodegradable & BPA-free)

Supplied with:
• Micro USB cable
• 48x 3Doodle plastic strands
• 3x Maintance tools

Micro USB charging port

Child safe - no hot parts

£36.99
Order code 25-0063

3Doodler Create PLA mixed pack of 25

PLA is a biodegradable plastic with a shiny surface.

£7.99
Order code 25-0064

3Doodler Start Ghostly Glow Filament

£3.79
Order code 25-0273

Paradime 1.75mm PLA Multipack of 13 Colours

• 1m lengths

£0.86
Order code 25-0039

DREMEL 3D40
IDEA BUILDER

- Remote printing over WiFi
- 3.5in full colour touch screen
- Super-quiet operation
- Two-point, assisted bed levelling
- Build volume: 254 x 152 x 171mm

£914.99
Order code 25-0550

Dremel 3D Idea Builder 3D Printer
PLA Filament 1.75mm Diameter

PLA Filament in a range of vibrant colours for the Dremel 3D Idea Builder 3D Printer, 25-0500 and 25-0550.

Dremel offers a wide array of dynamic colours to expand your creativity. Dremel PLA filament is plant-based and recyclable, and is manufactured and tested to provide smooth and consistent building.

- PLA filament • Diameter 1.75mm
- Supplied on 500g reels, containing approx. 190m of filament

Only
£19.99

White Order code 25-0502	Black Order code 25-0504	Blue Order code 25-0506	Orange Order code 25-0508	Silver Order code 25-0510	Red Order code 25-0512	Green Order code 25-0514	Translucent Order code 25-0516	Purple Order code 25-0518	Gold Order code 25-0520

renkforce RF100 3D Printer

The all-round worry-free beginners package. The RF 100 is shipped as a completely assembled unit with everything you need to get started included in the one delivery.
It offers the flexibility to be controlled with the included software by your PC, or using the integrated LCD display. Printing can be done via a PC or laptop connected to the unit, or simply direct from the SD card without any cables needed.

£239.99
Order code 25-0058

- Pre-assembled, plug & play, ready to print in 5 minutes
- Over 100 print-ready 3D models included on SD card
- Black metal housing
- Autonomous printing from SD card or via USB with a PC or MAC
- 250g PLA (white) and 50g sample printing filament packs (bronze, wood, elastic/rubber) included
- Tools (tweezers, cutter, spatula) included
- Build size 10cm x 10cm x 10cm
- White LED lighting
- Easy single knob operation and illuminated LCD display
- Easy to use slicing software (PC + MAC) included (Cura)

£1449.00
Order code 25-0202

£464.99
Order code 25-0055

UP BOX+

The UP BOX+ is the largest of the printers in the UP Range. Boasting an impressive 255x205x205mm build size and high resolution prints, this is the perfect machine for creating bigger models.

As well as having a large capacity, the UP BOX+ also has plenty of features to make it easy to set up and use such as WiFi connectivity, automatic bed levelling and nozzle height detection. The heated bed makes it suitable for both ABS and PLA prints and the fully enclosed housing with HEPA filter gives excellent reliability in all conditions.

Technical Specifications	
Machine size	485x495x520mm
Machine weight	20kg
Enclosed build chamber	✔
Heated bed	✔
Maximum print size	255x205x205mm
Layer resolution	0.10mm
Automatic calibration	✔ (nozzle height only)
Material	1.75mm ABS or PLA on 500g to1Kg spools
Connectivity	USB and WiFi
Third party filament support	✔
Operating Systems	Windows XP/7/8/10, Mac OSX

ABS and ABS+ 500g Spools

ABS	Price	Colour	ABS+	Price
25-0231	**£27.99**	Red	25-0225	**£42.00**
25-0232	**£27.99**	Yellow	25-0224	**£42.00**
25-0229	**£27.99**	Green	25-0223	**£42.00**
25-0228	**£27.99**	Blue	25-0222	**£42.00**
25-0227	**£27.99**	White	25-0221	**£42.00**
25-0230	**£27.99**	Black	25-0219	**£42.00**

PLA 500g Spools

PLA	Colour	Price
25-0226	Hawaii Blue	**£33.98**
25-0217	Rio Green	**£33.98**
25-0218	Pompeii Grey	**£33.98**

UP mini 2

The UP Mini 2 is the newest addition to the UP family of 3D printers. It takes many of the best features of the original UP Mini, the ever-popular UP Plus 2 and the larger UP BOX and packages them all into a small, neat and portable machine.

The maximum print size stays the same at 120x120x120mm but the resolution has improved from 0.20mm to 0.15mm and the UP Mini 2 has also gained automatic nozzle height calibration and a HEPA filter. It is also the first printer in the UP range to have a touch screen for easy set up and WiFi connectivity allowing you to control your printer over a network or using the iPad app.

The touch screen can be used to control basic functions such as calibration, adding filament, preheating the bed, turning the light on and off and setting up the WiFi. It also gives information during the printing process such as nozzle and bed temperature, progress bar and time to completion for the current print. It also lets you know how many grams of filament are left on the current spool of material.

But perhaps the most surprising thing about the UP Mini 2 is that it does all this for the same price as the original UP Mini.

Technical Specifications	
Machine size	255x365x385mm
Machine weight	8kg
Enclosed build chamber	✔
Heated bed	✔
Maximum print size	120x120x120mm
Layer resolution	0.15mm
Automatic calibration	✔ (nozzle height only)
Material	1.75mm ABS or PLA on 500g spools
Third party filament support	✔
Connectivity	USB and WiFi
LCD Screen	✔
Operating Systems	Windows XP/7/8/10, Mac OSX and ipad