

# electronics

help your pupils achieve more with our range of software

### What is Bright Spark?

Bright Spark is a fun circuit simulation package for exploring the world of electronics. Combining on-screen animation with realistic simulation, Bright Spark aids understanding by bringing circuits to life. It assumes no prior knowledge and comes with built-in courseware to help you learn the key principles behind electronics. You can then go on and build your own circuits using the wide choice of components included in the software.

### Innovative animation

Bright Spark uses advanced computer-modelling techniques to show you what happens 'inside' components and connecting wires when electrons flow around a circuit. This means that for the first time voltage, current and charge can be seen in action, making these notoriously difficult concepts easier to grasp.

### Life-like components

Bright Spark has over 40 superbly animated components for you to investigate including resistors, capacitors, switches, sensors, logic gates, diodes, timers, transistors and amplifiers. There are no limits to the circuits that you can design and no loose connections or faulty components. However, if the maximum ratings for any components are exceeded, they will explode!

### Building your own circuits

It's quick and easy to draw circuits in Bright Spark. Just grab the components you need and connect them together using the intelligent wiring tool. Make any final adjustments – Bright Spark will re-wire your circuit automatically – and then press the 'play' button to begin simulation.

### Express PCBs

An integrated link with PCB Wizard 3 means it's straightforward to convert your ideas into a Printed Circuit Board (PCB). Simply select the circuit you want transferred, click the 'PCB Make' button and then leave PCB Wizard 3 to do the rest.

### Courseware

An important element of Bright Spark is its courseware, which has been designed to help you gain an appreciation of the underlying science of electronics. The courseware contains a high level of simulation, animation and interactivity and encourages understanding through practical investigation. A comprehensive range of topics is covered including electric charge, current, voltage, conductance, resistance, capacitance, Ohm's law, Kirchoff's laws, series circuits and parallel circuits.



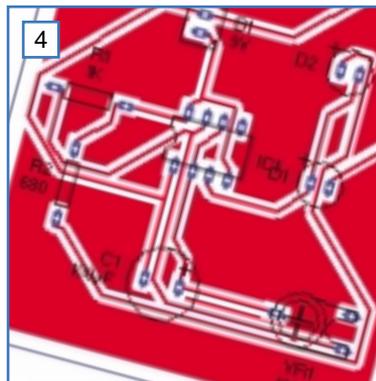
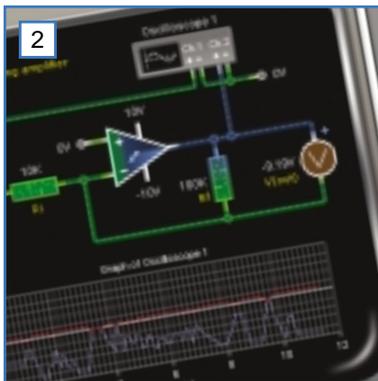
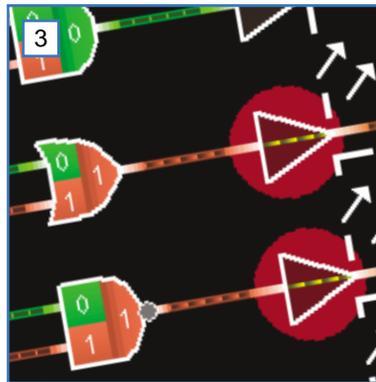
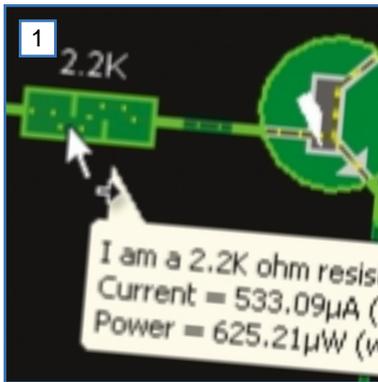
# Bright Spark

1 Pop-up bubble hints give readings for voltage, current, charge and power.

2 Comprehensive suite of test instruments include an ammeter, voltmeter and 2-channel oscilloscope.

3 Bright Spark circuit animation shows what happens inside components and wires.

4 Direct link to PCB Wizard 3 means it's easy to create PCBs.



## □ Control Studio 2

### What Is Control Studio 2?

Control Studio 2 is a simulation package for learning about systems electronics. It provides a practical introduction to the subject, helping place electronics in context within the everyday world. Control Studio 2 also offers a unique way of quickly modelling circuit ideas during the early stages of a project.

### Why take the systems route?

The systems approach takes an alternative route to the component approach, considering instead the functions of electronic circuits rather than the analysis of their constituent parts. This makes it ideal for elementary courses where there's less reliance on mathematical ability. As a result, the systems approach is the recommended method of delivering electronics teaching content in Design Technology courses.

### Designing the systems way

Designing circuits with Control Studio 2 couldn't be easier. Simply drag and drop subsystem blocks from the parts gallery onto your document (there's over 50 to choose from), link them together and then begin simulating your circuit. Control Studio 2 is powered by the same simulation engine as Livewire, so you can be confident that the results will always be accurate.

### Move ahead with rapid prototyping

Control Studio 2 provides a very useful method of developing different circuit ideas, enabling you to consider a number of 'what if ?' scenarios before arriving at a final design solution. And because Control Studio 2 is compatible with Livewire and PCB Wizard 3, you can automatically create circuit diagrams with ease.

### Express PCBs

Circuits designed in Control Studio 2 can be transferred directly to PCB Wizard 3 to create a finished PCB layout. Control Studio is the perfect companion for PCB Wizard 3 and together they provide the ultimate design and make resource for any Technology department.

### Free textbook

Control Studio 2 now comes with a free copy of the popular textbook, 'Electronic Systems with Control Studio' in Adobe® Acrobat® format. Designed to help you exploit the full interactive learning potential of Control Studio 2, 'Electronic Systems with Control Studio' examines a range of topics including: sensing and input subsystems, comparator circuits, counting and timing, logic, actuators/output subsystems as well as real-world problem solving.



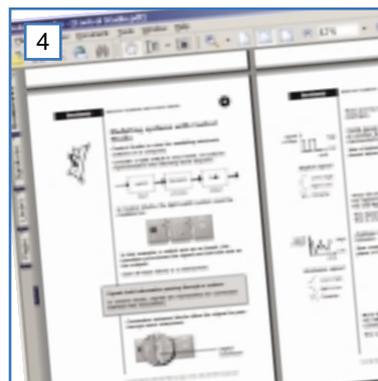
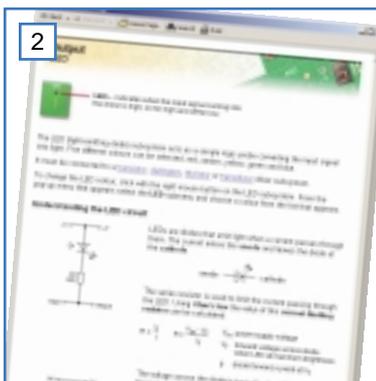
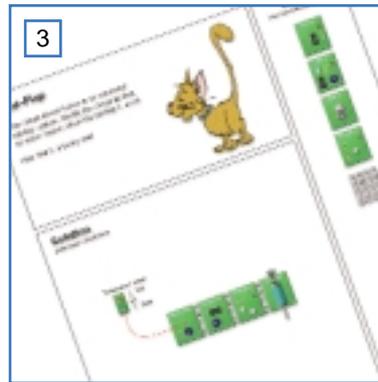
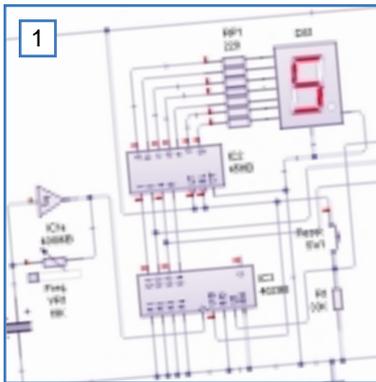
# Control Studio 2

1 Integration with Livewire and PCB Wizard 3 ideal for combining systems with component approach.

2 Data sheets provide hints and tips together with circuit diagrams and key reference material.

3 Investigate how to solve real-world problems using the systems approach.

4 Free book to help you get the most out of Control Studio 2.



### What is Livewire?

Livewire is a state-of-the-art package for designing, simulating and analysing circuits. It represents a significant step forward over rival software, offering you more components to use in your designs, unrivalled simulation accuracy, wires that don't break when you move components and a super-fast, fully automated link to PCB Wizard 3. Livewire is an invaluable tool for students of all levels wishing to progress in electronics.

### More components for you to use

Livewire boasts over 600 simulated components, ranging from a simple resistor through to a sophisticated LM3914 bargraph driver. For each one there's a choice of either an ideal model for teaching basic concepts or a real-world model (similar to those found in data books) for designing circuits.

### Results you can rely on

Have you ever simulated a circuit only to find that it doesn't work when you come to make it? Well, with Livewire that's a thing of the past. Livewire uses an industry standard simulation engine to consistently deliver fast, accurate results you can rely on.

### Staying connected

Designing circuits is much easier with Livewire as wires stay connected when you move components. Livewire's intelligent wiring tool means that you can make adjustments to your circuit and it will preserve all connections and re-route the circuit as necessary.

### Keeping an eye on things

To help analyse the characteristics of a circuit, Livewire provides you with 7 (yes, 7!) virtual instruments to experiment with. There's an oscilloscope, a digital multimeter, an analogue multimeter, a logic analyser, a wattmeter, a signal generator and a word generator for producing streams of 16-bit words.

### Express PCBs

Livewire is tightly integrated with PCB Wizard 3. This means that when you've drawn and simulated a circuit you can transfer it straight to PCB Wizard 3 with the simple click of a button. PCB Wizard 3 will then take over and do the rest for you.



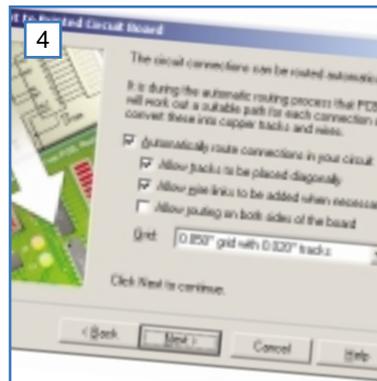
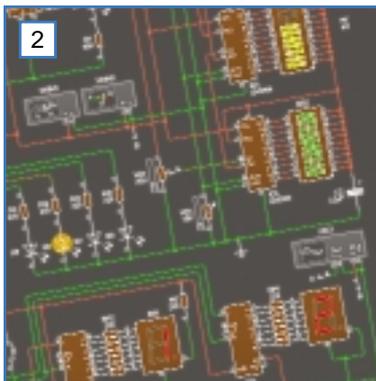
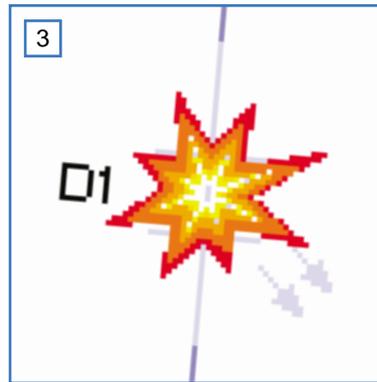
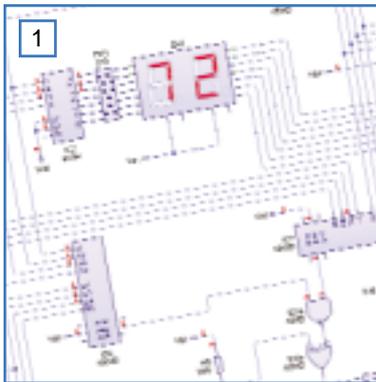
# Livewire

1 Livewire contains an extensive library of components that animate.

2 Styles are a unique feature that allows you to see different views of a circuit.

3 Livewire provides realistic simulation of component destruction and maximum component ratings.

4 Seamless integration means Livewire has direct access to many of PCB Wizard 3's automatic tools.



## □ PCB Wizard 3

### What is PCB Wizard 3?

PCB Wizard 3 is a highly innovative package for producing PCBs. Offering unrivalled productivity through powerful design tools and an ultra-friendly user interface, PCB Wizard 3 is the ideal choice for all your project work. Add to that, seamless integration with Bright Spark, Control Studio 2 and Livewire, and PCB Wizard 3 is hard to beat. Over 20,000 registered users around the world can't be wrong!

### Designing with ease

PCB Wizard 3 shares its drawing tools with Livewire meaning that you're guaranteed the same ease-of-use and flexibility. And once you've finished designing your circuit, you can translate it into reality with the simple press of a button.

### Straightforward translation

With PCB Wizard 3, we've greatly improved the translation from circuit design to PCB. You can now specify a board size and shape and leave the software to handle any digital power supply. Also, during the translation process all component numbers are transferred, making it easier to track and trace faults.

### Smaller, better looking PCBs

Have you ever wanted your current software to generate smaller and more compact circuit boards? Well, PCB Wizard 3 can do this, by calculating an optimum board size for you and intelligently positioning components in preparation for automatic routing. Great looking results are guaranteed every time!

### Improved automatic routing

PCB Wizard 3 achieves better results than ever before with its enhanced automatic router. You can now expect more tracks to be routed successfully, even on complex multi-layer boards involving several integrated circuits.

### Keeping down the costs

PCB Wizard 3 features a powerful new copper pour system that helps you to reduce your manufacturing costs. It works by adding areas of solid copper to all of the unused parts of a circuit, thus enabling substantial savings to be made.



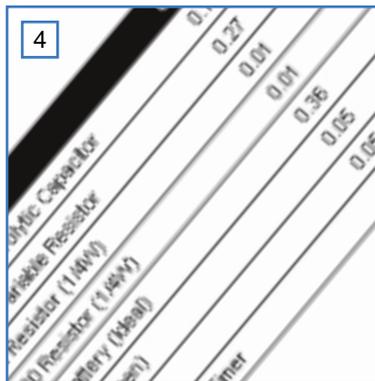
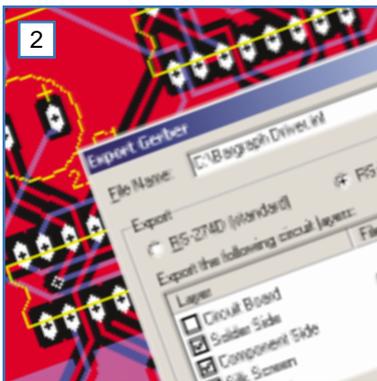
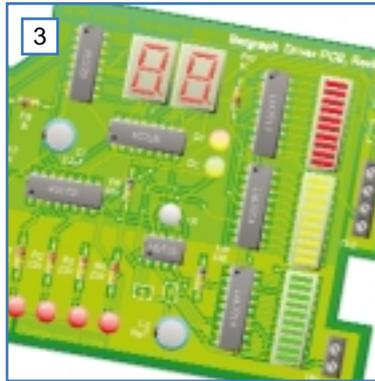
# PCB Wizard 3

1 You can create round and irregular shape circuit boards with PCB Wizard 3.

2 CAD/CAM support includes industry standard Gerber and Excellon output.

3 Styles simplify the process of viewing circuits and are useful when assembling and soldering circuit boards.

4 PCB Wizard 3 can generate spreadsheets containing costs related to a circuit.



## □ Supporting education

### Free courseware

As part of our continuous drive to offer unrivalled support for schools and colleges, a range of worksheets has been added to our website. These can be downloaded freely from [www.new-wave-concepts.com/courseware.html](http://www.new-wave-concepts.com/courseware.html). More courseware will be added on a regular basis to help you get the most out of our software.

### Software updates

Available from our website at [www.new-wave-concepts.com/updates.html](http://www.new-wave-concepts.com/updates.html) will be periodic updates for all our software. These will be free of charge to registered customers of the current version and will contain new features, bug fixes and general improvements. The first scheduled update for Control Studio 2, Livewire and PCB Wizard 3 is due on the 28th June 2004. If you are a registered customer and don't have access to the Internet, please call 08706 09 09 11 after this date to receive an update CD.

### Online help

Comprehensive support material is provided with all our software. This includes an online user guide, worked tutorials, example files and videos that show you how to get the most out of a product. Additional help is also available through our website.

### Software costs

When you purchase our software, you can expect a typical life cycle of 3 to 4 years. Contrast this with the subscription services offered by our rivals, where you will have to pay for upgrades every year in order to keep the software up to date. We think you will agree that this works out to be very expensive when compared to the one-off ownership costs of our software.

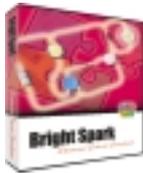
### Technical support

New Wave Concepts is committed to producing high quality software for education. As part of this commitment, we offer full lifetime support for all our products. If you experience problems, or just need general help, simply call our technical support hotline or email [support@new-wave-concepts.com](mailto:support@new-wave-concepts.com).

### Training

New customers who want to know more about using our products or teachers who are interested in finding out about the latest innovation in Design Technology can attend one of our UK workshops. We offer a range of fun, informal courses to suit a variety of different requirements. For more information, please email [j.neale@new-wave-concepts.com](mailto:j.neale@new-wave-concepts.com).

## □ Product highlights



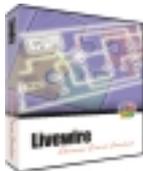
### Bright Spark

- Unique animation for grasping difficult concepts.
- Intuitive design tools and realistic circuit simulation.
- Built-in courseware for effortless learning.
- Direct link to PCB Wizard 3.



### Control Studio 2

- Systems approach suited to elementary electronics courses.
- Rapid prototyping for project work.
- Free textbook for accelerated learning.
- Direct link to Livewire and PCB Wizard 3.



### Livewire

- Industry standard simulation engine for accurate results.
- Over 600 realistic components to use.
- Intelligent wiring tool for intuitive designing.
- Direct link to PCB Wizard 3.



### PCB Wizard 3

- Number one PCB package in UK education.
- Intelligent design tool that re-wires your circuit as you work.
- Advanced 'rip-up and retry' automatic router for stunning results.
- Powerful copper pour system reduces costs.

# Highlights

## □ Ordering information

### Full education versions

#### Bright Spark

BR-1U .....	Bright Spark (1 user license).....	£99.99
BR-5U .....	Bright Spark (5 user concurrent license†) .....	£249.99
BR-5X.....	Bright Spark (5 user extension license) .....	£100.00

#### Control Studio 2

CS-1U .....	Control Studio 2 (1 user license).....	£99.99
CS-5U .....	Control Studio 2 (5 user concurrent license†) .....	£249.99
CS-5X.....	Control Studio 2 (5 user extension license) .....	£100.00

#### Livewire

LW-1U .....	Livewire (1 user license).....	£99.99
LW-5U .....	Livewire (5 user concurrent license†) .....	£249.99
LW-5X.....	Livewire (5 user extension license) .....	£100.00

#### PCB Wizard 3

PW-1U.....	PCB Wizard 3 (1 user license) .....	£99.99
PW-5U.....	PCB Wizard 3 (5 user concurrent license†) .....	£249.99
PW-5X.....	PCB Wizard 3 (5 user extension license).....	£100.00

### Upgrade versions (for existing owners of PCB Wizard or Control Studio)

#### Control Studio 2

CS-UP-1U .....	Control Studio 2 single-user upgrade.....	£59.99
CS-UP-5U .....	Control Studio 2 (5 users or more) upgrade .....	£159.99

#### PCB Wizard 3

PW-UP-1U .....	PCB Wizard 3 single-user upgrade .....	£59.99
PW-UP-MU .....	PCB Wizard 3 multi-user (5 users or more) upgrade .....	£159.99

Official UK education orders are welcome, otherwise cheque with order made payable to New Wave Concepts Limited (drawn on a UK bank). Please allow up to 10 days for delivery. All prices exclude VAT. Postage and packing £5.00. Prices valid until 31st July 2005. E&OE. Payment terms are nett 30 days. **A 1-user version can be upgraded to a 5-user version by paying price difference. † A multi-user (5 users or more) version can be installed on a local network as long as the number of concurrent users does not exceed the license.**

# Ordering

Invoice details	
Name	
Address	
Post code	

Delivery details (if different)	
Name	
Address	
Post code	

Code	Product	Quantity	Cost

P&P	£5.00
VAT @ 17.5%	
<b>Total</b>	



Signed
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Date
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Order Number
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# Order form

For official UK education orders, complete the form and then **FAX** to:

**08706 09 09 12**

or **MAIL** the form to:

**New Wave Concepts Ltd.**  
 St. Andrew's House  
 59 St. Andrew's Street  
 Cambridge CB2 3BZ



New Wave Concepts has been officially granted Curriculum Online retailer status. You can use your e-learning credits (eLCs) to buy Bright Spark, Control Studio 2, Livewire and PCB Wizard 3 directly from us. For more information, please call **08706 09 09 11** or visit the DfES website at [www.curriculumonline.gov.uk](http://www.curriculumonline.gov.uk).

**Tick this box if you are using e-learning credits (eLCs).**



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