Livewire & Control Studio 2

Free electrical circuit simulation software for your Technical Education department from SSERC.

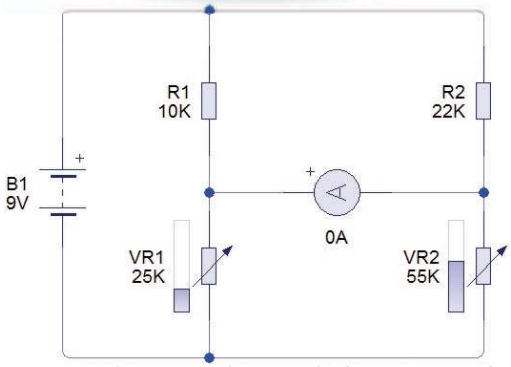

Figure 1 *- A Wheatstone bridge circuit example.*

What is it?

One free site licence for both Livewire and Control Studio 2 software have been secured for every Technical Education department in Scotland by SSERC. The software is intended to, but not limited to, impact the delivery of introductory lessons in Engineering Science (and even our friends in the Physics department might find them useful!).

What can it do?

The combination of both software packages allows teachers and pupils to design, simulate and analyse electronic circuits on a school computer without the need for hardware. These simulations offer a potentially infinite number of combinations. The software packages also allow departments who currently do not present Engineering Science for exams to explore and demonstrate electronic circuits in introductory lessons.

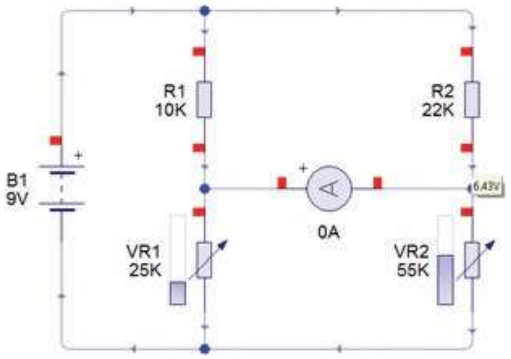

Figure 2 *- Allows the Wheatstone voltage levels also to be displayed simply by hovering over the red icons with the cursor.*

How can it help me?

Using Control Studio 2 and Livewire allows you to create and simulate the performance of electronic circuits in the classroom, and then allows the designs to be transformed into a Printed Circuit Board (PCB) diagram. This is incredibly helpful as pupils can make mistakes, change their minds and all without the risk of damage to costly electronics kit. Users can select from a large library of European or American circuit symbols and continually build to solve the challenges they have been set. It also means that previous examples of PCB diagrams from past papers and tutorial books can be created and simulated by pupils as part of their Engineering Science learning.

Demonstration of use!

With the software packages you can start from scratch or use the template designs already provided. If you wish to create your own circuit then simply:

- select an input from your available list
- attach a connector (remember the current will flow in the direction of the arrow!)
- select a process of your choice
- again add another connector
- finally from the list of outputs place it on the end of your circuit

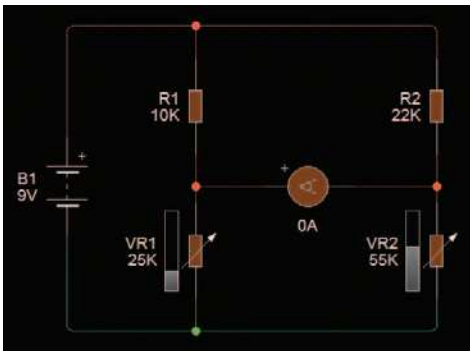

Figure 3 *- The Wheatstone current flow is displayed in clear colours.*

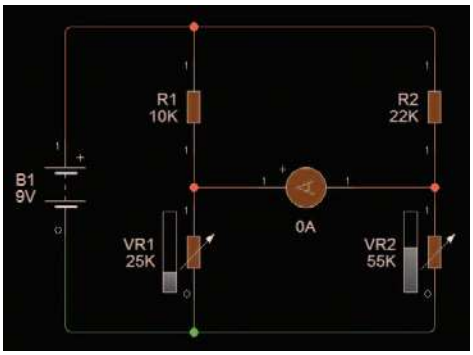

Figure 4 *- Identifies the logic levels with 1 or 0.*

- to simulate the circuit click on the play triangle at the top of the page, and fingers crossed your circuit works!

When will it arrive in my school?

SSERC has been communicating directly with all Heads of Education of every local authority and is compiling a contact list to ensure the software codes are delivered to each Technical Education department. Hopefully this process will start to see the introduction of the software packages at the start of the August term.