



This electronics study card is designed to connect to the 409-01 Experiment Platform or to the 300-01/300-02 Advanced Electronics Experiment Platforms\* as part of a modular electronics programme.

This practical resource introduces a systems approach for the learner to understand components and circuits in the context of electronic applications. This resource is ideal for use within an intermediate electronics program.

The board can be also be used in conjunction with our optional cloud-based software, which offers online practical electronics tasks as well as interactive theory presentations, investigations, and assessments, which link directly to the practical activities carried out using this resource.

\* **Note:** to connect to 300-01, 300-02, D3000 EXP or D3000 VIP2 you will also need a 409-02 Experiment Card Motherboard.

### Practical Tasks Include the Following:

- Construct simple Automatic Light Switch Systems
- Construct Switch State Detector Systems
- Construct Latching Switch Systems
- Investigate a BJT Driver
- Investigate a MOSFET Driver
- Investigate the operation of a Relay
- Investigate the operation of an Amplifier and Loudspeaker
- Investigate the operation of a 7-Segment Display
- Investigate the effect of varying voltage at the output of a potentiometer
- Recognise the nature of an analog signal
- Recognise the nature of a digital signal
- Identify simple analog-to-digital and digital-to-analog converters
- Investigate AND, OR, and NOT Gates for processing digital signals
- Investigate Comparators for processing analog signals to give digital signal outputs
- Investigate Voltage Amplifiers for processing analog signals

- Investigate Lighting/Temperature Failure Warning Systems
- Investigate Temperature/Time Switch Controller Systems

### Items Included:

- Circuit Card
- Storage Case
- Manuals in PDF Format on CDROM

### Other Items Required:

- 490-01 Experiment Platform
- 2 Digital Multimeters
- or**
- 300-02 Advanced Electronics Experiment Platform
- 409-02 Experiment Card Motherboard

### General Information:

Dimensions: 50 x 238 x 175 mm (W, H, D)  
 Shipping Volume: Approx 0.002 m<sup>3</sup>  
 Shipping Weight: Approx 0.35 kg

**Order Code: 419-14**

P8549-A