

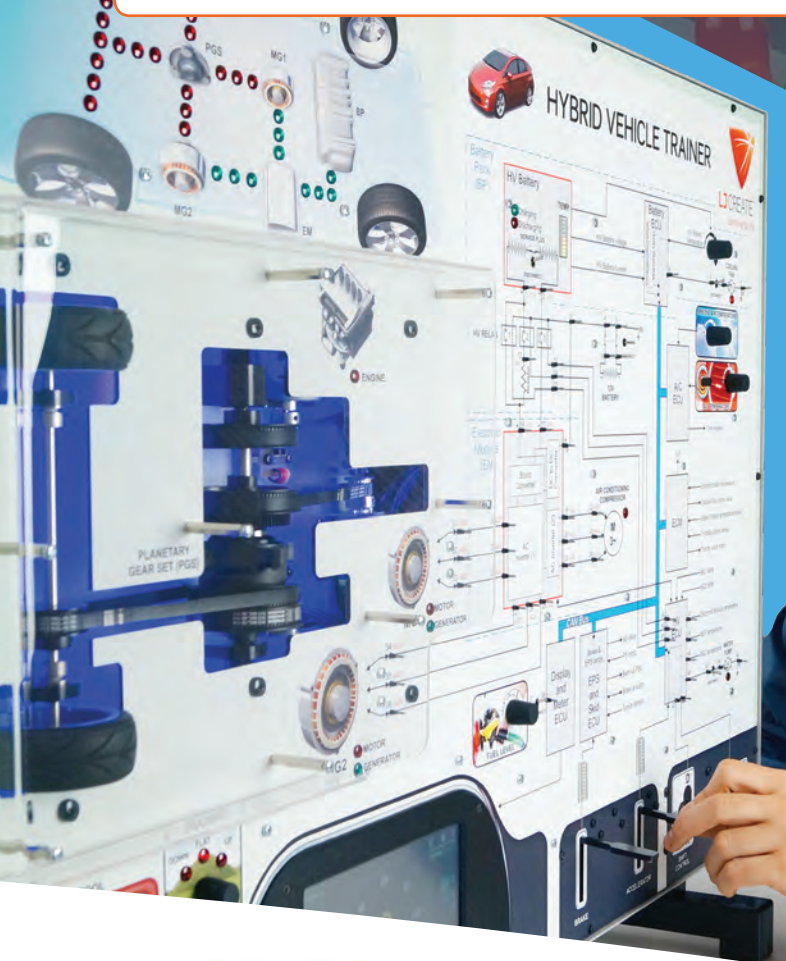
Preparing students for the workplace

College Products Catalog

21st century learning

Aligned to standards

Knowledge and skills lessons



**LJ CREATE™**  
Learning for life

College  
→ Products  
Catalog



# → Welcome

We're LJ Create, Education Specialists since 1979

Since 1979 we have been providing award-winning, world-class active learning solutions for technical education.

Today we create complete systems combining digital cloud content and tailor-made hardware kits that deliver innovative, inspiring learning in science, technology and engineering.

At LJ Create our mission is to enable learners throughout the world to achieve their full potential in a wide range of science and engineering areas by providing teaching solutions for schools and further education.

Our practical and innovative topic-specific solutions enable learners to achieve a firm foundation for their future, allowing them to grow and evolve in a way that meets their learning needs.

We help practitioners derive benefits in terms of learning outcomes and school management. We create more opportunities in science, engineering, and technology based curricula to enable learning for life.

Today LJ Create employs a diverse range of staff who are dedicated to our company vision, so we are able to impact considerable human and technological resources on our business.

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# 21st Century Learning for College Students

It's almost impossible to predict the jobs awaiting a college student. As educators, we are responsible for preparing them so that they can make informed decisions.

This means they need to experience a variety of disciplines, be presented with options, and form an opinion of what different skills can lead to. Our training resources will help you along the way.



Research, Design  
and Technology



Electronics



Engineering  
Management



Information  
Technology



Control and  
Instrumentation



Transportation,  
Distribution and  
Logistics



Mechanical and  
Fluid Power



# Control and Instrumentation Hardware

## Industrial Control and PLC Trainer Teaching Set (290-00)

From beginner to expert, this teaching set brings a factory floor conveyor sorting system into the classroom. Students perform a comprehensive range of PLC programming tasks using a Siemens controller.

Our innovative simulation software is included to help introduce the basic concepts of PLCs and ladder logic. Programs developed by the student can be used to control either the hardware or the simulator.

### Order as:

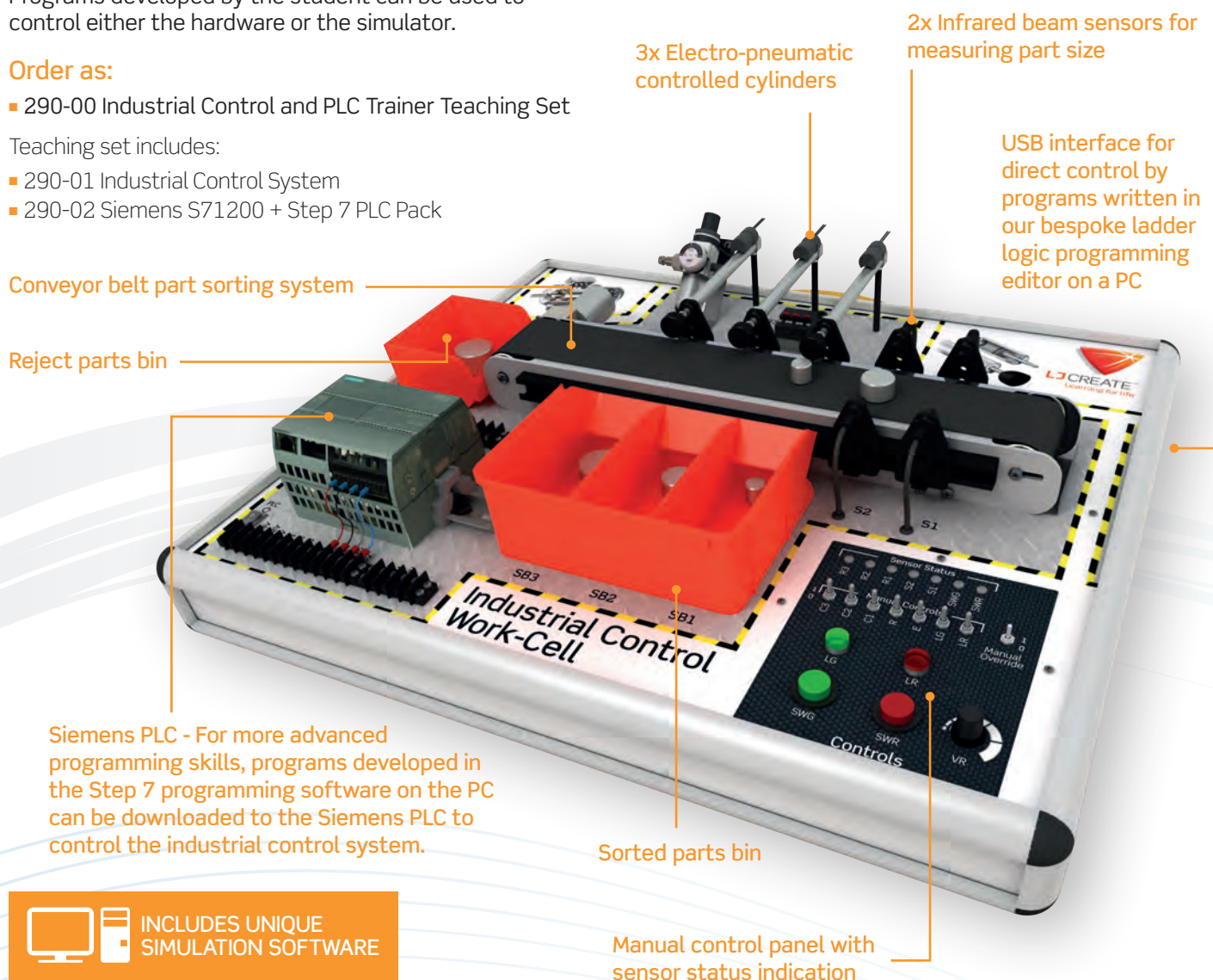
- 290-00 Industrial Control and PLC Trainer Teaching Set

Teaching set includes:

- 290-01 Industrial Control System
- 290-02 Siemens S71200 + Step 7 PLC Pack

### Typical practical tasks and topics include:

- Industrial controllers
- Logic (AND, OR, NOT), truth tables and step logic
- Latching actuators
- Counting parts
- Timing events



INCLUDES UNIQUE  
SIMULATION SOFTWARE



## PLCs Trainer Teaching Set (291-00)

From beginner to expert, the PLC training system offers a rotating disc sorting application to teach the fundamentals of PLC control. We also include our unique software simulation in the package to help introduce the basic concepts of PLCs and ladder logic.

### Order as:

- 291-00 PLCs Trainer Teaching Set

Teaching set includes:

- 291-01 PLCs Trainer
- 290-02 Siemens S71200 + Step 7 PLC pack

### Typical practical tasks and topics include:

- Create ladder logic programs
- Logic, truth tables and step logic
- Counting parts and timing events
- Analog input sensing
- Rotary encoder monitoring

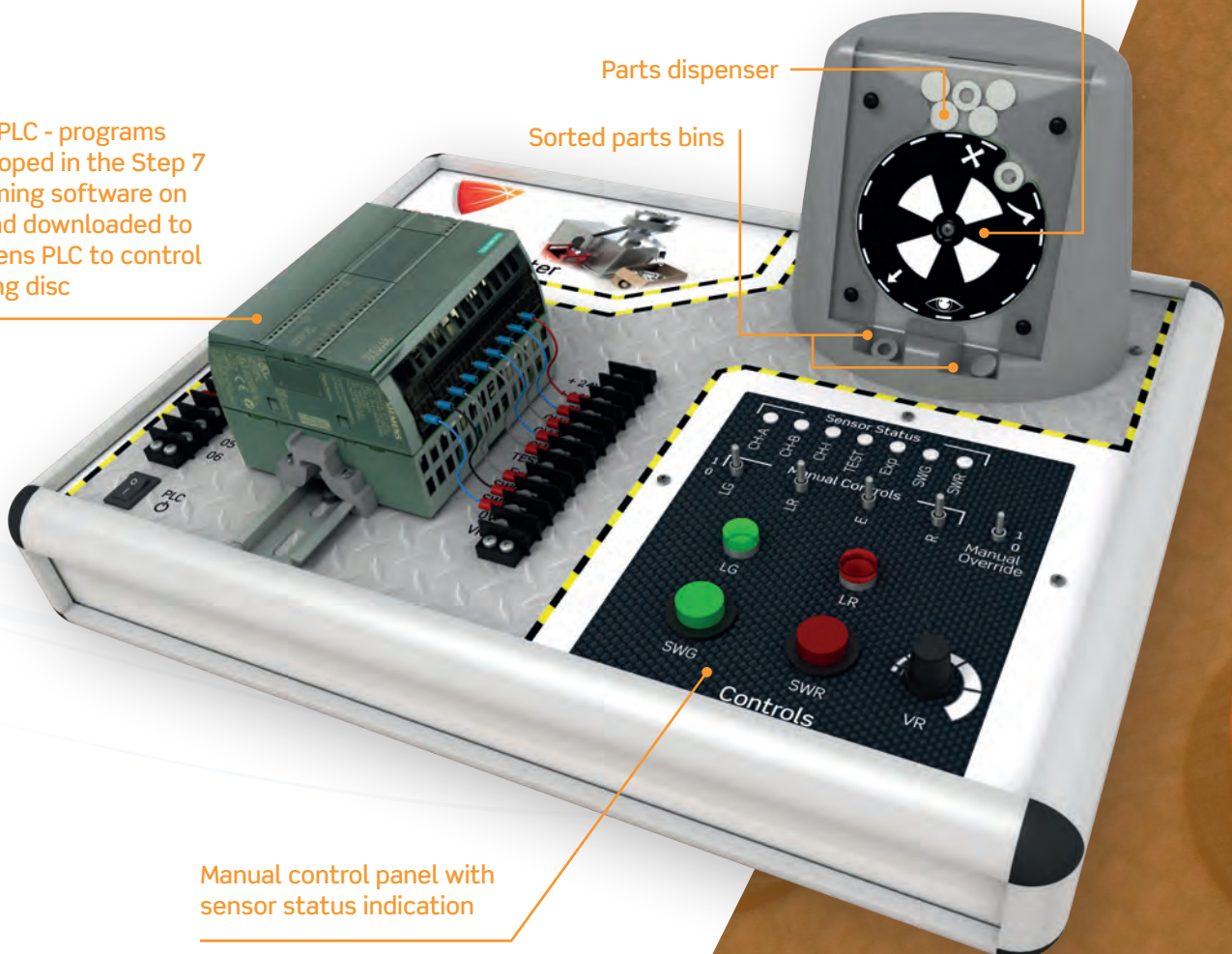
Analog motor-controlled sorting disc with infrared hole detection sensor

Parts dispenser

Sorted parts bins

Siemens PLC - programs are developed in the Step 7 programming software on the PC and downloaded to the Siemens PLC to control the sorting disc

Manual control panel with sensor status indication



# Control and Instrumentation Hardware

## Transducers, Instrumentation and Control Trainer (217-50)

The Transducers, Instrumentation and Control Trainer introduces students to input sensors, output actuators, signal conditioning circuits and display devices through a wide range of hands-on practical activities.

### Typical practical tasks and topics include:

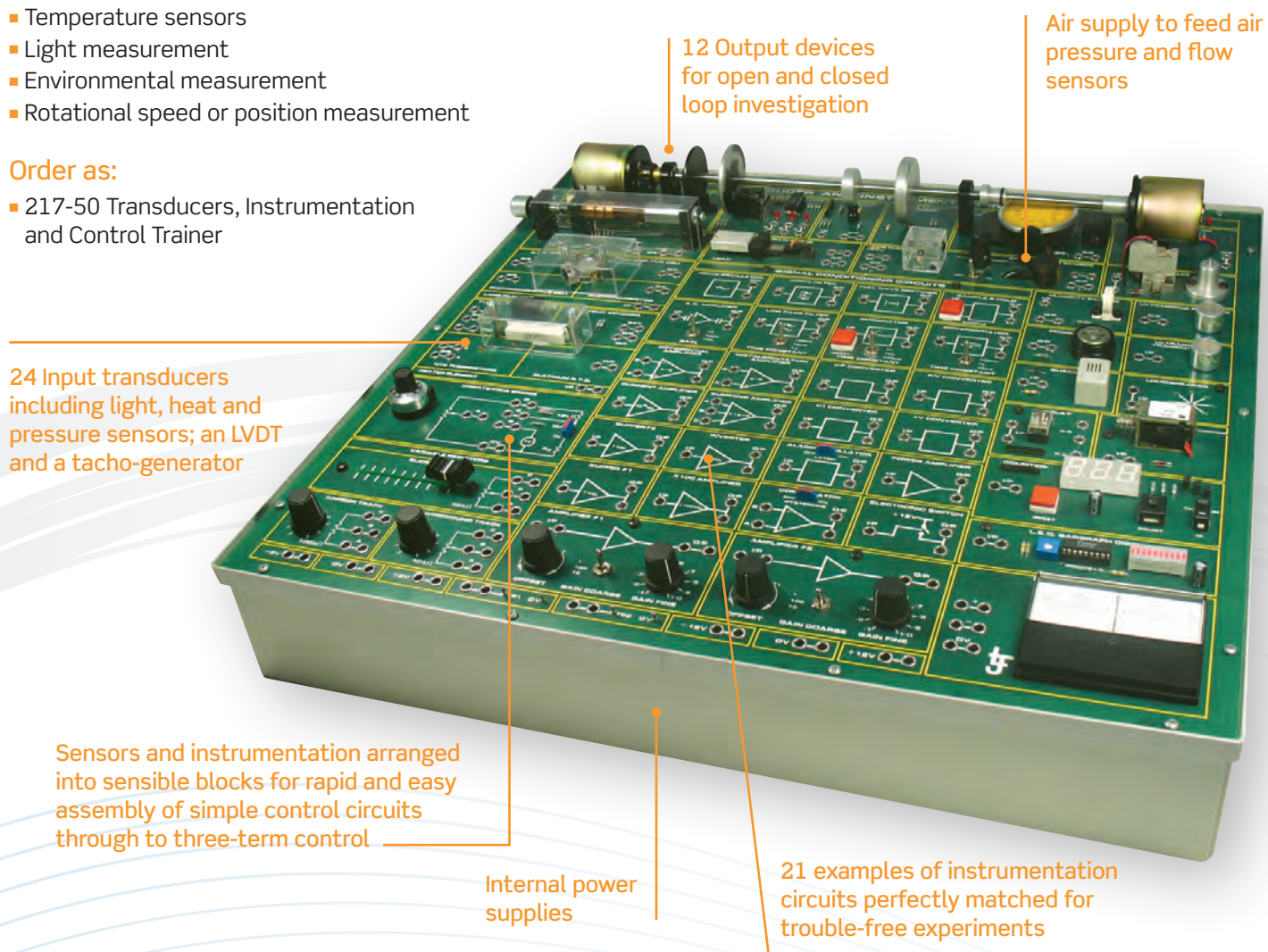
- Electronic switch
- Positional resistance transducers
- Wheatstone bridge measurements
- Temperature sensors
- Light measurement
- Environmental measurement
- Rotational speed or position measurement

### Order as:

- 217-50 Transducers, Instrumentation and Control Trainer

### Also available:

- 217-60 Data Acquisition of Control Systems (This is a virtual instrument unit that allows a PC to act as a set of test instruments. Instruments include an oscilloscope, multimeter, spectrum analyzer signal generator and data logger.)
- 217-00 Transducers, Instrumentation and Control Teaching Set (Includes 217-50 and 217-60)





# Analog and Digital Motor Control Teaching Set (207-00)

This system provides the complete solution to teaching analog and digital motor control. The heart of the system is a mechanical unit which produces repeatable, text-book results every time.

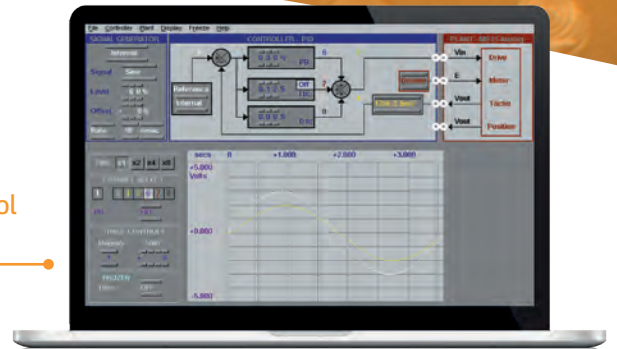
## Order as:

- 207-00 Analog and Digital Motor Control Teaching Set

Teaching set includes:

- 207-02 Virtual Control Laboratory
- 207-03 Command Potentiometer
- 207-04 PID Controller Module
- 207-05 4mm Connection Lead Set
- 207-15 D.C. Motor Control Module
- 207-40 Power Supply Unit

Virtual control laboratory

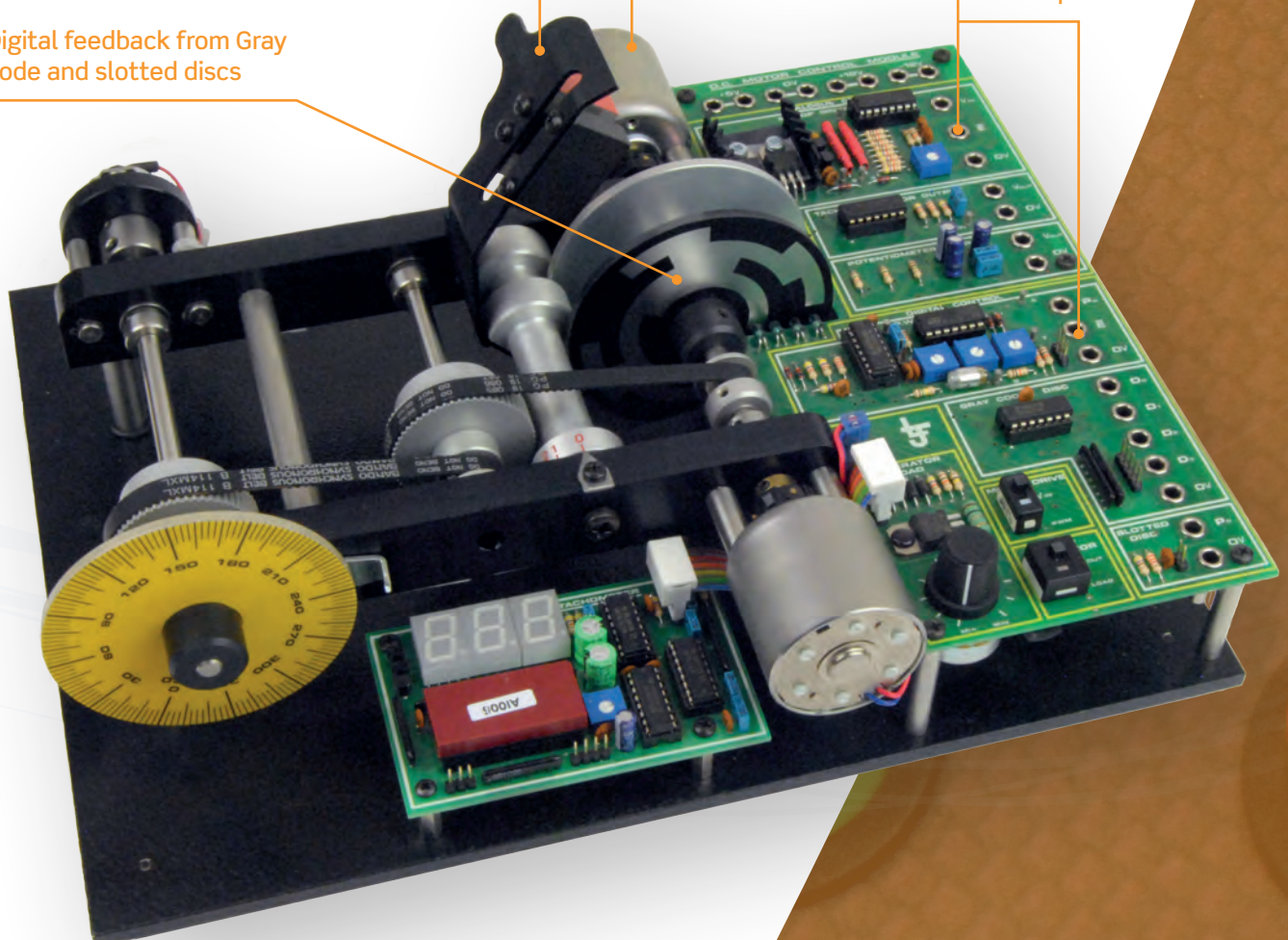


Digital feedback from Gray code and slotted discs

Variable eddy current brake

Analog feedback via a tacho-generator and precision potentiometer

Analog and PWM inputs



# → Mechanical and Fluid Power Hardware

## Hydraulics Trainer (280-01)

The Hydraulics Trainer offers a portable classroom-based resource for practical investigation of hydraulic components and systems. The trainer uses quick-release hydraulic hoses to allow rapid circuit connection and setup.

A Fluid Power Resource Pack is ideal for a whole-class introduction to fluid control using syringes and hoses.

### Typical practical tasks and topics include:

- Principles of hydraulics
- Valves and flow control
- Creating pressure with pumps
- Cylinder design

### Order as:

- 280-01 Hydraulics Trainer

### Also available:

- 278-01 Fluid Power Student Resource Pack

Fluid supply controls with integral hydraulic pump and reservoir

Operates on safe erifon-based hydraulic fluid

Multi-order configurable lever arm mechanism for lifting weights

Performance comparison of small and large cylinders

Durable, quick-release hoses for configuring lots of different hydraulic circuits

Drip tray to maintain a clean environment

Flow control, five-port control and check valves

Flow rate and in-line pressure gauges



INCLUDES UNIQUE  
SIMULATION SOFTWARE

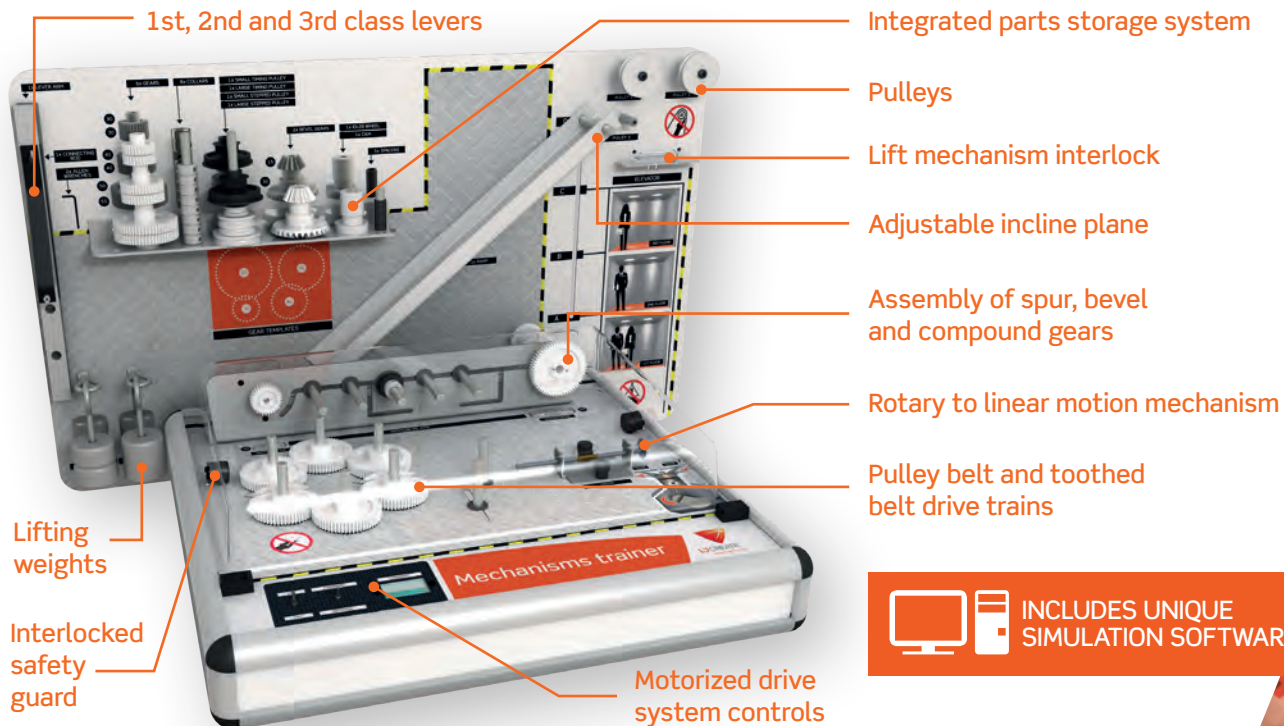


## Mechanisms Trainer (260-01)

The Mechanisms Trainer offers a classroom-based resource for practical investigation of a variety of fundamental mechanical systems.

Order as:

- 260-01 Mechanisms Trainer



## Pneumatics Trainer (270-01)

Offers a classroom-based resource for practical investigation of pneumatic components and systems. The trainer allows users to connect components to create fundamental circuits.

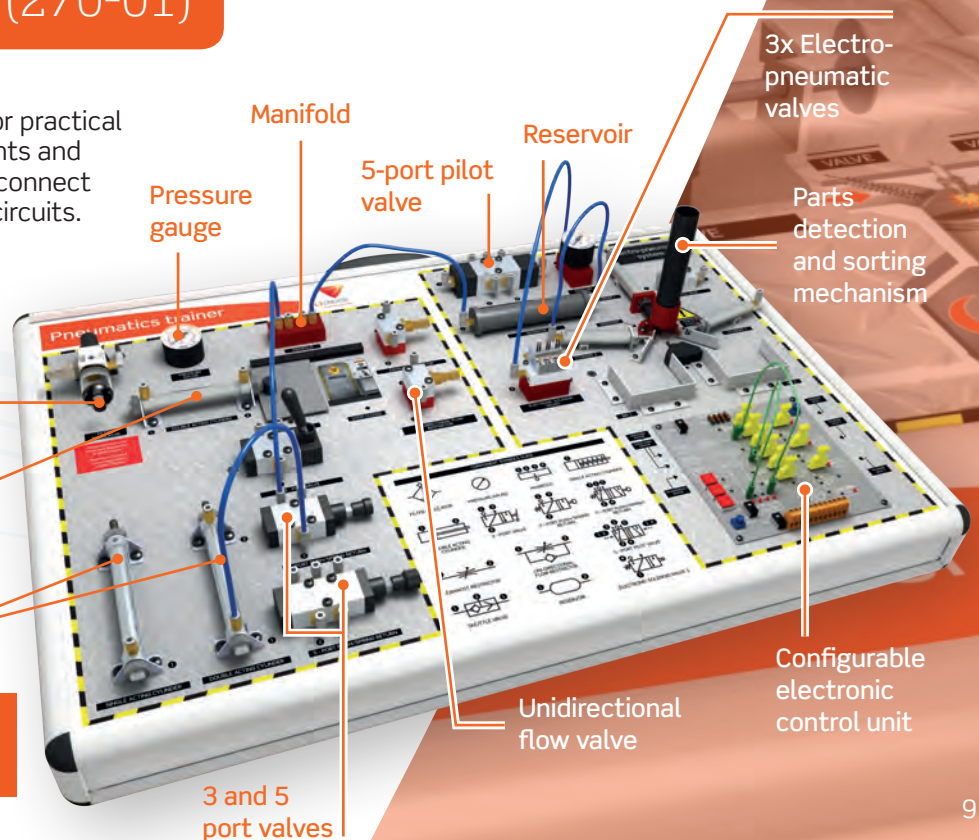
Order as:

- 270-01 Pneumatics Trainer

Air supply connection with filter regulator to run off supplied hand pump or external air supply

Door control mechanism

Single and double acting cylinders



# Electronics Hardware

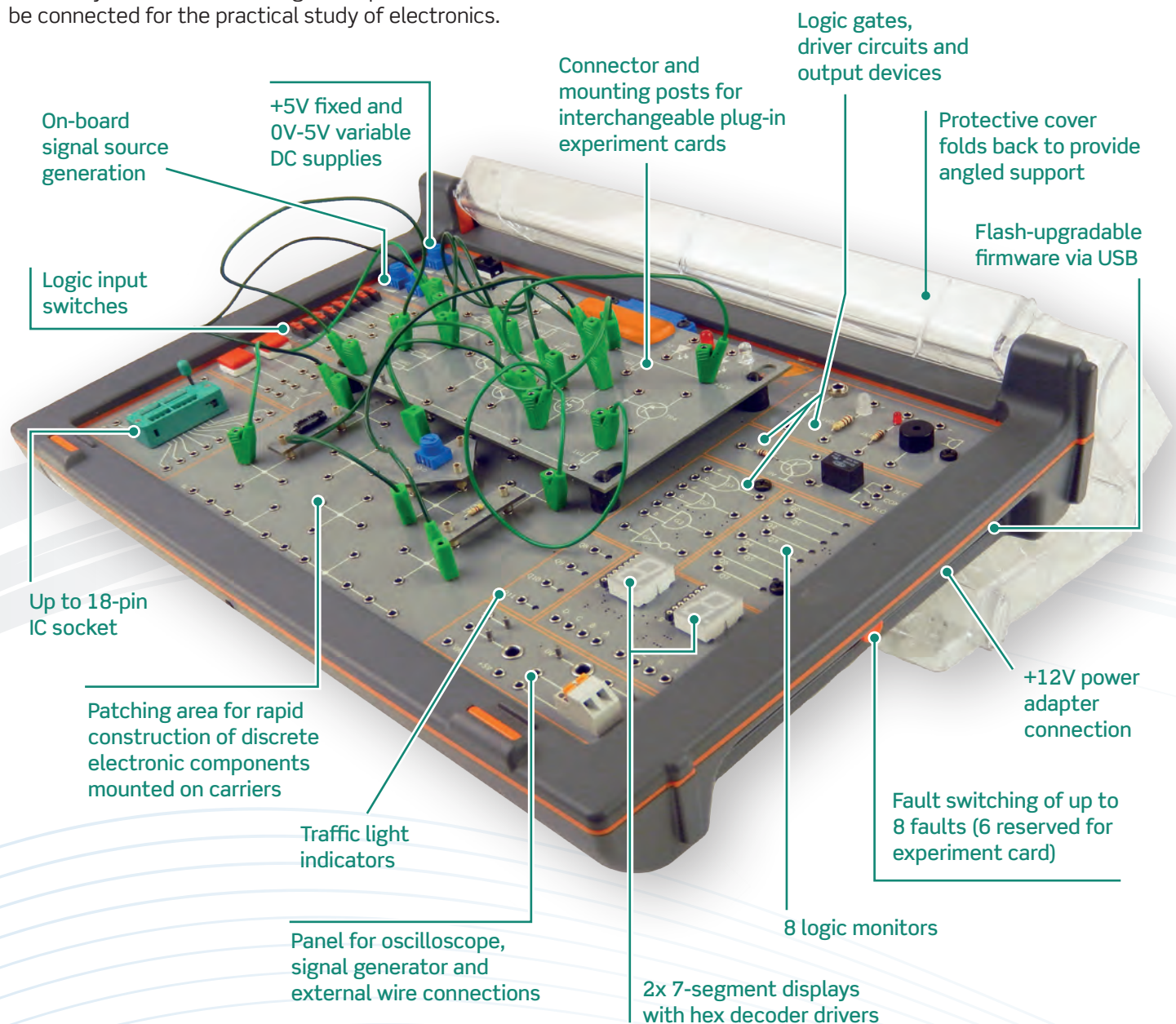
## Electronics Study Trainer (320-00)

The Electronics Study Trainer provides the basis for a practical resource that introduces students to core electronics and electronic systems through a wide range of practical activities.

The study trainer allows a range of experiment cards to be connected for the practical study of electronics.

### Order as:

- 320-00 Electronics Study Trainer





# Complete Electronics Workstation (320-10)

The core electronics series allows the practical study of a wide range of electronics subjects, including DC and AC circuits, semiconductors, analog and digital systems, telecommunications and microcontrollers.

The series comprises an electronics study trainer and component set, and a range of plug-in experiment cards. The unique design of the trainer includes a heavy duty casing with transparent protective cover.

When in use, the cover folds back to provide an angled support for the unit. With the cover closed, trainers become stackable for easy storage.

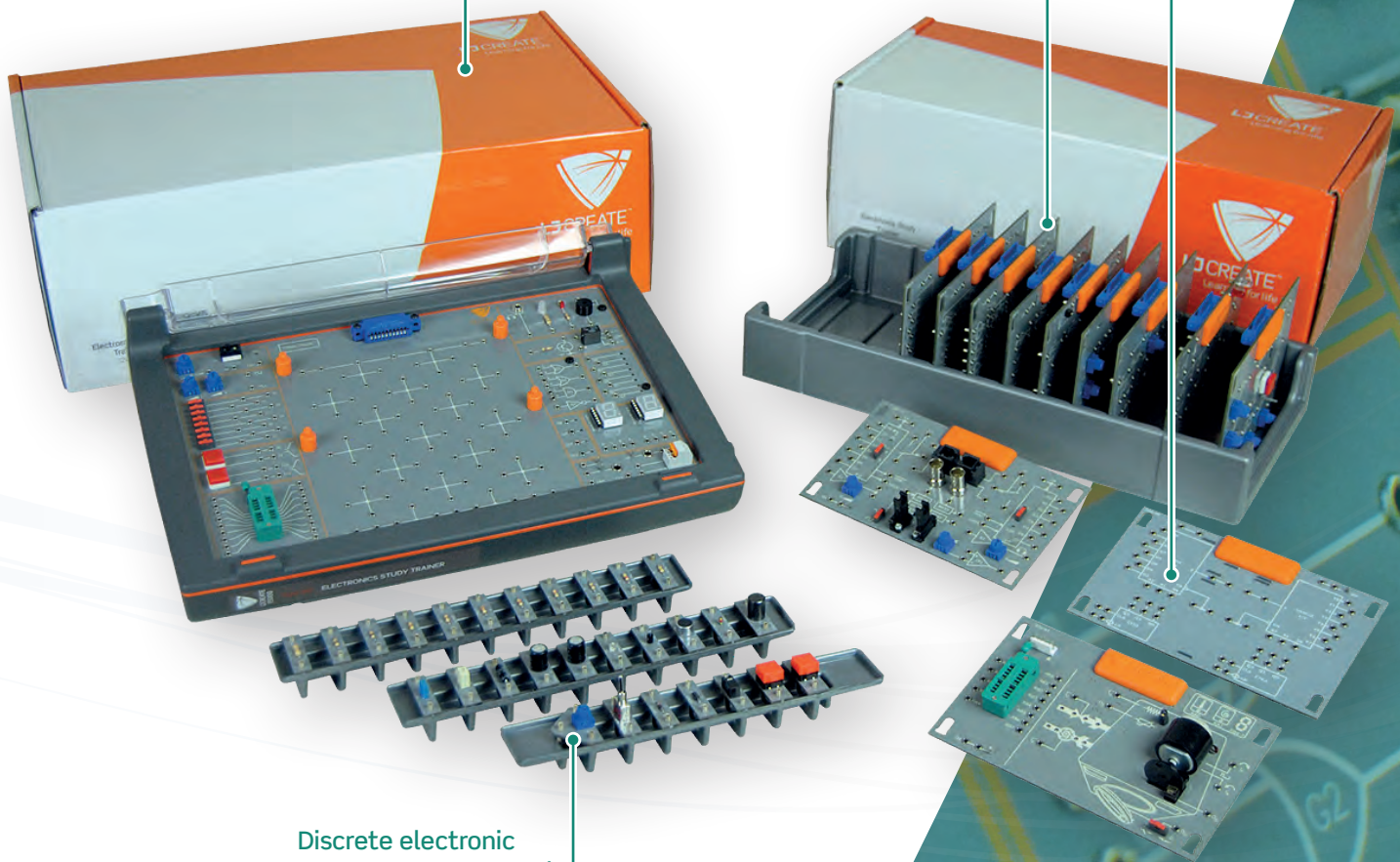
## Order as:

- 320-10 Complete Electronics Workstation (includes 320-00 to 320-61)

Compartmentalized storage system

Interchangeable study cards

Discrete electronic components mounted on carriers



# Electronics Hardware

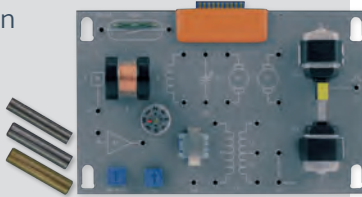
Our completely re-designed core electronics series is a perfect blend of component-based and systems training for intermediate (Level 1, 2 and 3) electronics students.

- Patch discrete components quickly and easily
- Add an interchangeable study card for more complex circuits
- Or combine the two for even more flexibility!
- Controlled troubleshooting faults that really test circuit understanding

## Electromagnetism Card (320-14)

Typical practical tasks and topics include:

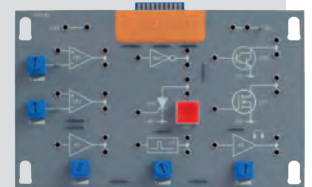
- Reed switch operation
- Hall effect investigation
- Transformer power and efficiency
- DC motor-generator



## Electronic Systems Card (320-01)

Typical practical tasks and topics include:

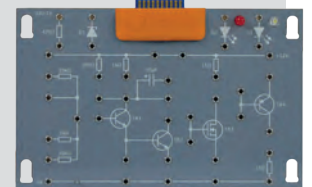
- Darlington pair and FET investigation
- Thyristor investigation
- Automatic lighting project
- Baby alarm project



## Diodes and Transistors Card (320-21)

Typical practical tasks and topics include:

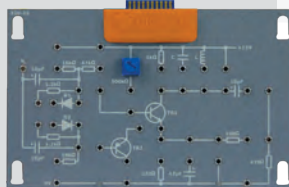
- Voltage stabilization using a zener diode
- NPN transistor as a voltage amplifier
- FET operation
- Testing diode and transistor circuits



## Transistor Amplifiers Card (320-22)

Typical practical tasks and topics include:

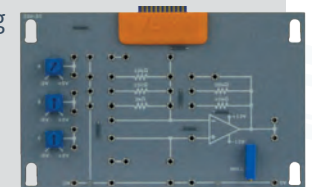
- Build and test Class A, B, AB and C transistor amplifiers
- Crossover distortion
- Effects of feedback in a transistor amplifier circuit



## Operational Amplifiers Card (320-31)

Typical practical tasks and topics include:

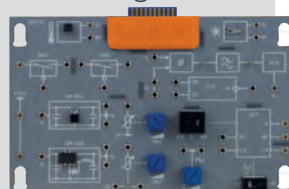
- Voltage comparator circuits
- Building and testing inverting & non-inverting amplifiers
- High frequency performance of an operational amplifier



## Analog Integrated Circuits Card (320-32)

Typical practical tasks and topics include:

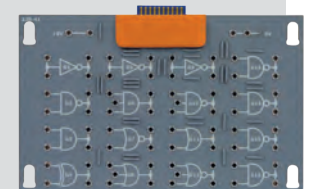
- Comparing linear and switch mode voltage regulators
- Testing a switched capacitor filter
- Investigating the operation of a phase locked loop



## Combinational Logic Card (320-41)

Typical practical tasks and topics include:

- Investigating logic gates
- Constructing truth tables
- Building EXOR gates from other gates
- Equivalent logic circuits



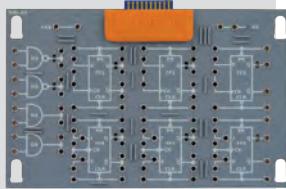


Please note: these circuit cards are used in conjunction with 320-00 Electronics Study Trainer

### Sequential Logic Card (320-42)

Typical practical tasks and topics include:

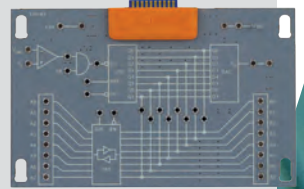
- D-type flip-flop
- J-K flip-flop
- Binary counter operation
- Frequency division
- Shift register operation



### A/D-D/A Digital Systems Card (320-43)

Typical practical tasks and topics include:

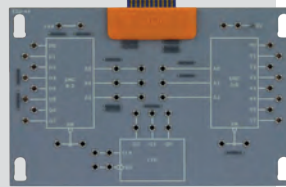
- Investigating a D/A converter
- Building and testing an A/D converter
- Tri-state devices
- Testing and fault-finding A/D and D/A systems



### Encoder/Decoder Digital Systems Card (320-44)

Typical practical tasks and topics include:

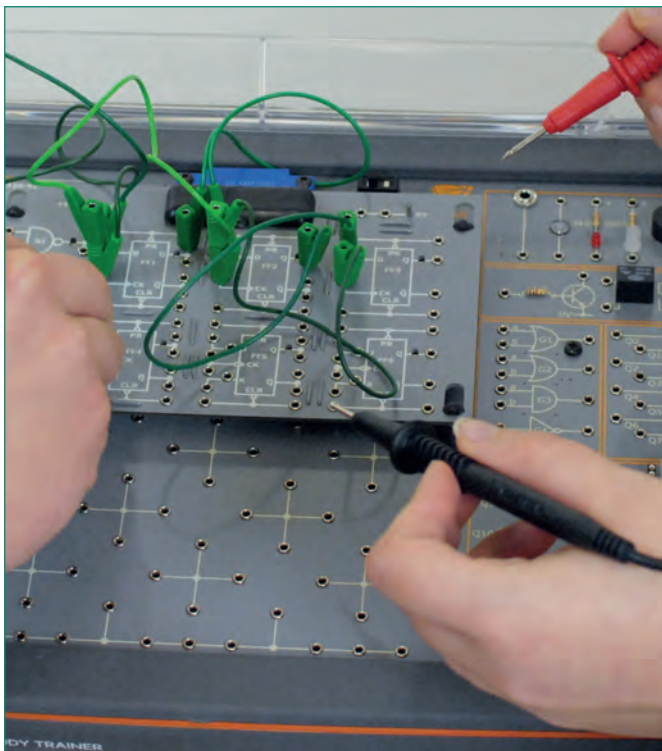
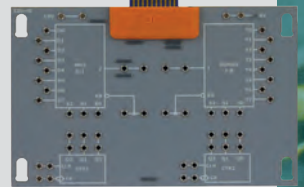
- Investigate digital encoders
- Decoding the output from a binary counter
- Building and testing an encoder-decoder system



### Multiplexer/Demultiplexer Digital Systems Card (320-45)

Typical practical tasks and topics include:

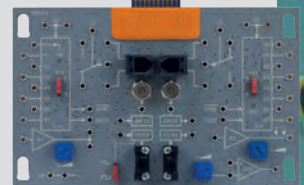
- Scanning multiplexer inputs using a binary counter
- Building and testing multiplexers/demultiplexers
- Clocking & Synchronization



### Electronic Communications Systems Card (320-51)

Typical practical tasks and topics include:

- AM & Optical transmission
- Digital data transmission
- Simplex and duplex modes
- Transmission protocols



### PIC Programmer and Applications Card (320-61)

Typical practical tasks and topics include:

- Sensors and actuators
- Controlling I/O port lines
- Performing arithmetic and logical operations
- Using sub-routines



# Electronics Hardware

## Advanced Electronics Experiment Platform with Virtual Instrumentation (300-02)

This unit provides a full set of virtual instruments and accommodates all study modules from the advanced electronics range. The unit is controlled by a PC through a USB port.

### Order as:

- 300-02 Advanced Electronics Experiment Platform with Virtual Instrumentation

A special lever-operated 'load and eject' system protects the connector from any stress and ensures reliable connection time after time.

Computer-controlled insertion of circuit faults

Study modules fit in the mounting area in the middle of the base unit

Reliable 2mm connections are used to connect virtual instruments

USB connection and BNC connectors

Provides access to the following power supply outputs: +5V DC, -5V DC, +12V DC, -12V DC, Variable 12V DC, 12-0-12V 50/60Hz AC

A complete set of virtual instrumentation is integrated into the base unit





## Advanced Electronics Experiment Platform (300-01)

This unit provides power supplies and connection facilities for the complete range of advanced electronics study modules. It can operate either in standalone mode, or via a USB interface to a host PC. Facilities are provided for inserting circuit faults into study modules.

### Order as:

- 300-01 Advanced Electronics Experiment Platform



## Virtual Instrumentation Unit (300-03)

This resource packages a range of test equipment neatly into one small unit that interfaces with a PC.

The on-screen applications mimic traditional equipment and allow the user to copy the screens showing measured values and waveforms. This is great for evidence gathering, as scope patterns and scope setups can be pasted directly into documents.

### Order as:

- 300-03 Virtual Instrumentation Unit

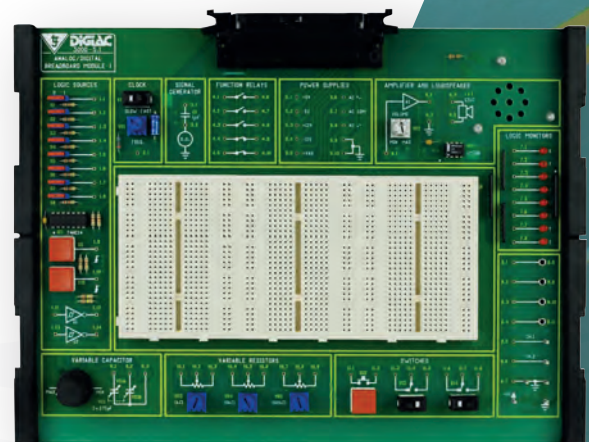


## Breadboard Module (300-04)

The breadboard module allows students to build a wide variety of electronic circuits using discrete components. In addition to a large, solderless breadboard patching area, the board provides a range of built-in support circuitry.

### Order as:

- 300-04 Breadboard Module



## Test Instruments

300-11 Digital Multimeter

300-12 Autoranging Digital Multimeter

300-13 Digital Storage Oscilloscope

300-15 Function Generator

300-16 25MHz Virtual Oscilloscope

300-17 50MHz Virtual Oscilloscope

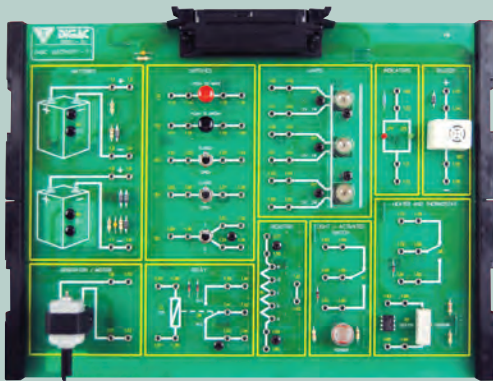
# Electronics Hardware

Please note: all study modules include switched faults for troubleshooting tasks

## Basic Electricity Study Module (301-01)

Typical practical tasks and topics include:

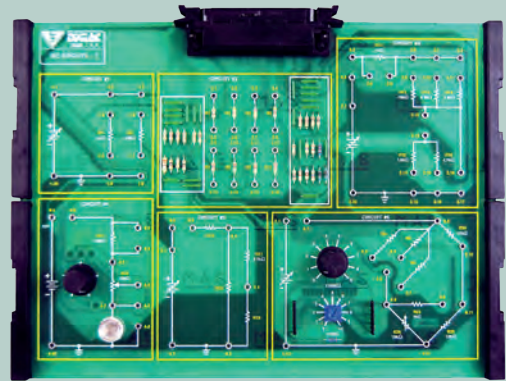
- Symbols and switches
- Magnetism and relays
- Measuring electricity
- Motors and generators
- Thermistors



## DC Circuits Study Module (301-11)

Typical practical tasks and topics include:

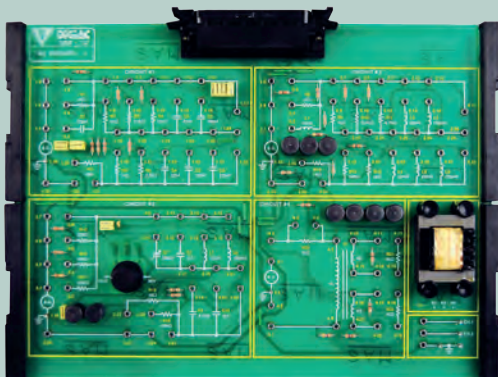
- DC circuits
- Ohm's Law
- Resistor color coding
- Variable resistor characteristics
- The Wheatstone Bridge



## AC Circuits Study Module (301-12)

Typical practical tasks and topics include:

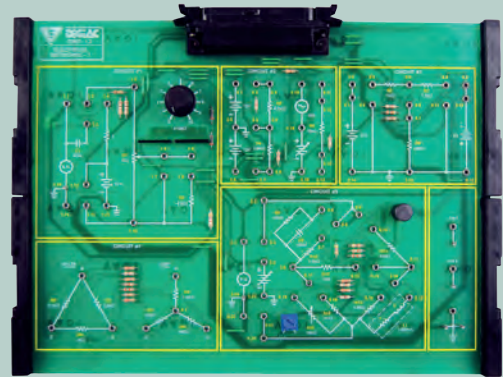
- AC waveforms
- Capacitive inductance
- RC circuits
- Transformer principles
- Determining phase shift for a capacitor



## Electrical Networks Study Module (301-13)

Typical practical tasks and topics include:

- Electrical networks and theorems e.g. Thevenin's and Norton's theorems
- Superposition and star delta transformation
- DC and AC bridges

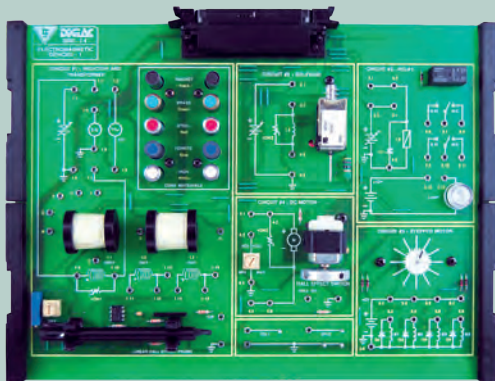




## Electromagnetic Devices Study Module (301-14)

Typical practical tasks and topics include:

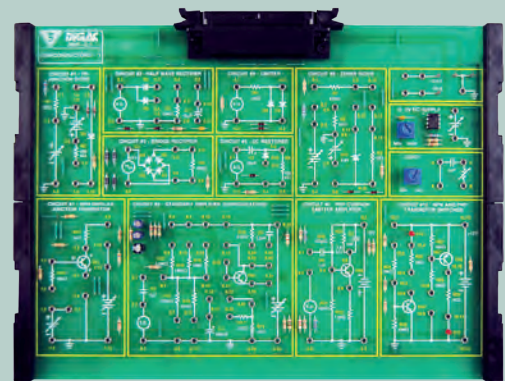
- Principles of magnetism and electromagnetism
- Investigate pull-in voltage for a solenoid
- Determine EMF in a generator armature



## Semiconductors 1 Study Module (302-21)

Typical practical tasks and topics include:

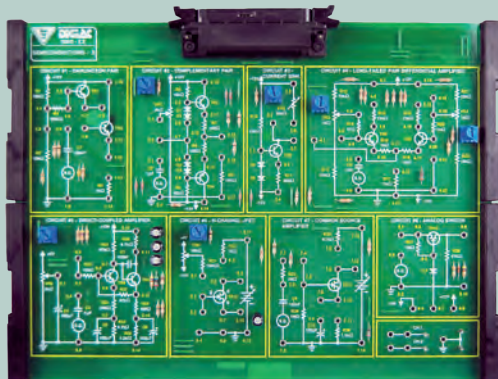
- Plot the transfer characteristic for a bipolar junction transistor
- The transistor as a switch
- Measure quiescent and dynamic voltages for an emitter follower (CC) amp to determine the gain



## Semiconductors 2 Study Module (302-22)

Typical practical tasks and topics include:

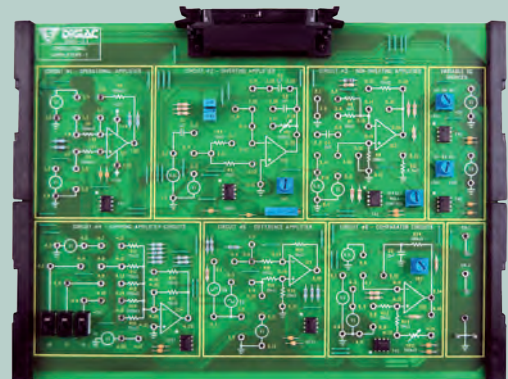
- Bipolar junction transistors
- Field effect transistors
- JFET parameters



## Operational Amplifiers Study Module (302-31)

Typical practical tasks and topics include:

- Determine the action of a zero crossing detector
- Observe the operation of a comparator circuit
- Measure the offset voltage for a non-inverting amplifier



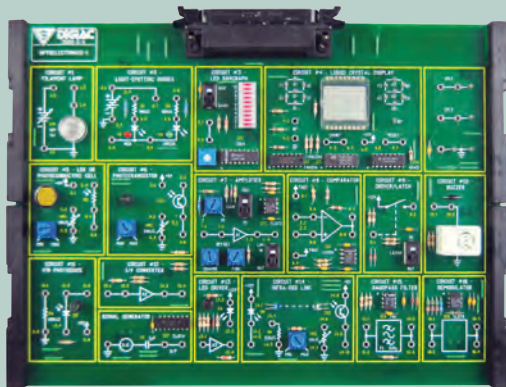
# Electronics Hardware

Please note: all study modules include switched faults for troubleshooting tasks

## Optoelectronic Devices Study Module (303-24)

Typical practical tasks and topics include:

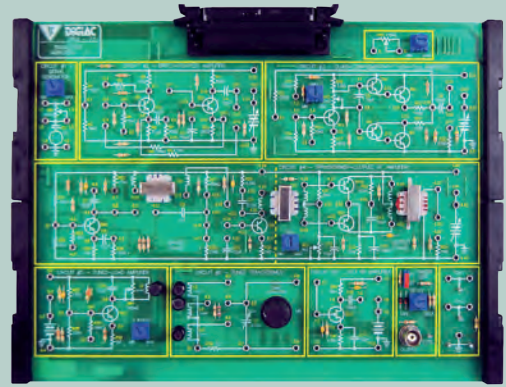
- Measure power dissipation for red and green LEDs
- Interpret I - V curve for an LED
- Identify the operation of a bar graph display



## Transistor Amplifiers Study Module (303-25)

Typical practical tasks and topics include:

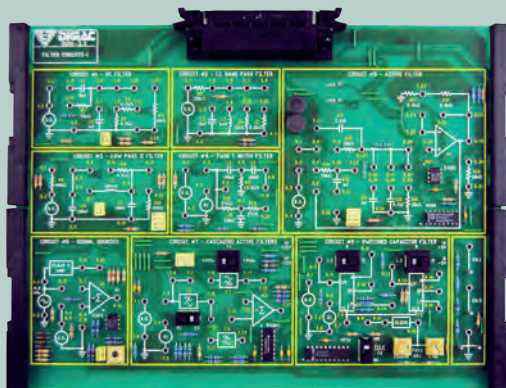
- Determine values to be used for transistor amplifier circuit components
- Indirect coupling in a double-tuned amplifier
- Tuned load amplifiers



## Filter Circuits Study Module (303-32)

Typical practical tasks and topics include:

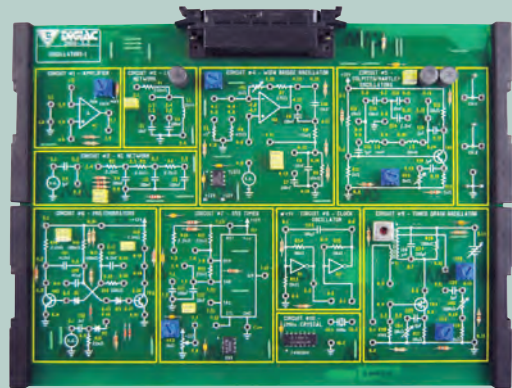
- Identify advantages of using the logarithmic scale for amplitude and frequency
- Determine cut-off frequency for a low-pass filter
- Recognize the effect of a damping resistor



## Oscillators Study Module (303-33)

Typical practical tasks and topics include:

- Measure the oscillation frequency & diagnose faults for RC and LC oscillators
- Measure voltages in a working oscillator circuit
- Measure capacitor charging time

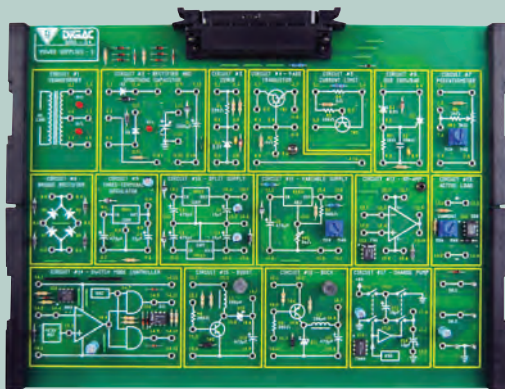




## Power Supplies Study Module (303-34)

Typical practical tasks and topics include:

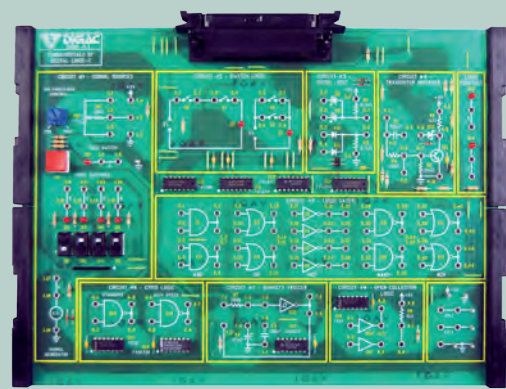
- Determine output resistance, ripple amplitude and percentage ripple of a power supply
- Determine the efficiency and regulation of a variable supply regulator



## Fundamentals of Digital Logic Study Module (304-41)

Typical practical tasks and topics include:

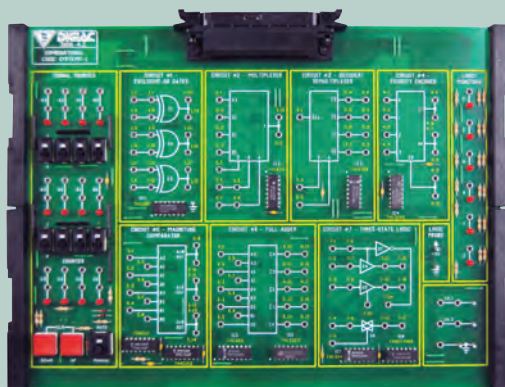
- Measure voltages from switched logic sources
- Identify the allowable voltage ranges for TTL inputs and outputs
- Measure voltage levels in DTL circuits



## Combinational Logic Study Module (304-42)

Typical practical tasks and topics include:

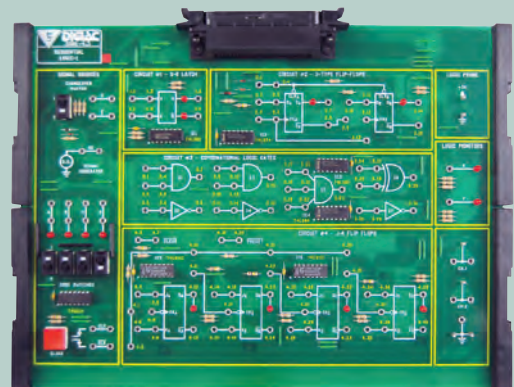
- Determine from observations the logic states for encoder and decoder circuits
- Diagnose faults in decoder circuits
- Deduce the operation of a 4-bit full adder



## Sequential Logic Study Module (304-43)

Typical practical tasks and topics include:

- Determine the truth table of an S-R latch
- Observe the operation of a shift register
- Diagnose faults in J-K based counter and flip-flop circuits and D-type flip-flop circuits



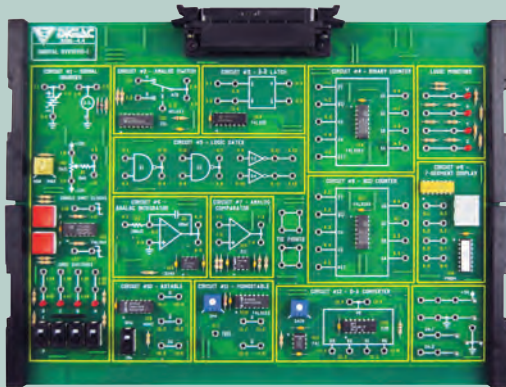
# Electronics Hardware

Please note: all study modules include switched faults for troubleshooting tasks

## Digital Systems Study Module (304-44)

Typical practical tasks and topics include:

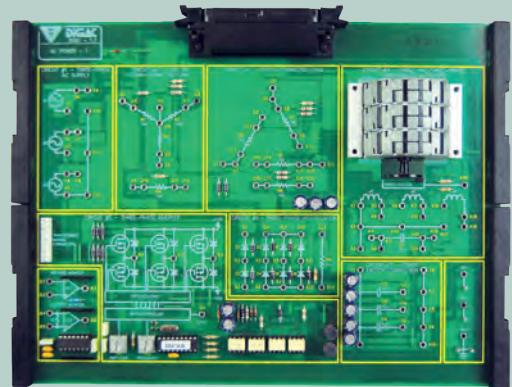
- Observe the operation of an analog switch, a monostable and a bistable circuit
- Determine the output from an integrator for square wave and constant voltage inputs



## AC Power Study Module (305-17)

Typical practical tasks and topics include:

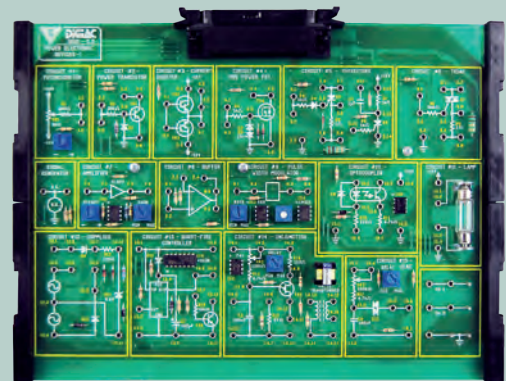
- Measure phase voltages, phase-phase voltages, and phase relationships of a three-phase supply
- Identify the principle of an inverter
- Measure voltages in balanced and unbalanced delta/wye connected circuits



## Power Electronics 1 Study Module (305-23)

Typical practical tasks and topics include:

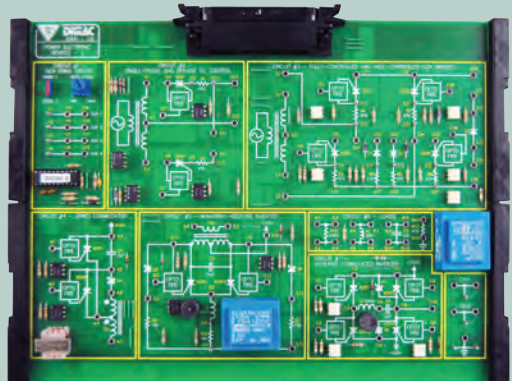
- Determine the base-emitter voltage and current gain of a power transistor
- Identify waveforms in an audio power amplifier
- Measure the gate current of a Triac



## Power Electronics 2 Study Module (305-26)

Typical practical tasks and topics include:

- Determine the firing angle of an SCR rectifier
- Troubleshoot a fault in an SCR bridge circuit
- Investigate the operation of the Jones Commutator with resistive and inductive loads

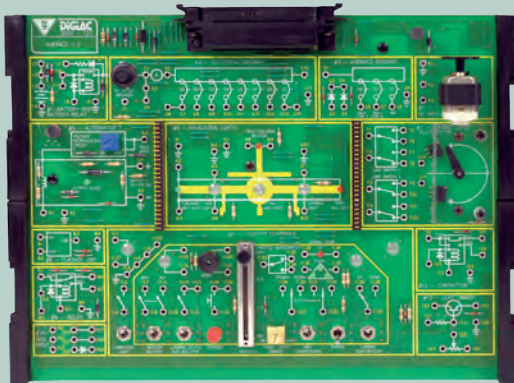




## Avionics 1 Study Module (312-01)

Typical practical tasks and topics include:

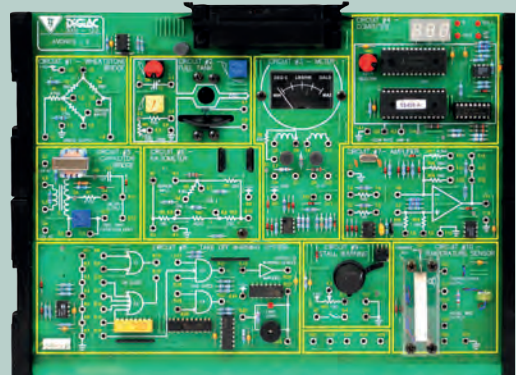
- Identify the electrical power supply systems that are available on the various Cessna aircraft
- Investigating the operation of a rheostat
- Investigating a flap control system



## Avionics 2 Study Module (312-02)

Typical practical tasks and topics include:

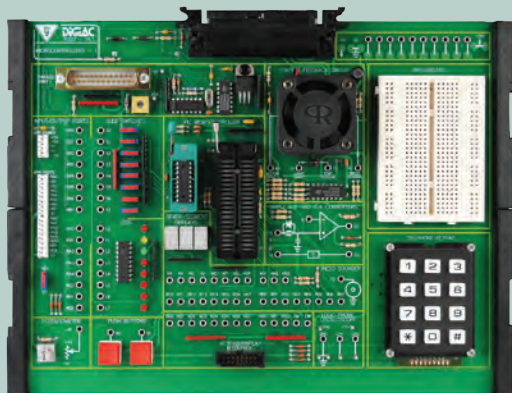
- Stall warning systems
- Take off warning systems
- Temperature warning systems incorporating nickel wire sensors



## PIC 3000 Microcontroller Study Module (316-01)

Typical practical tasks and topics include:

- PIC microcontrollers
- Interrupts and delay routines
- Keyboard scanning and display driving
- Sound generation



## PIC 32 Extension Kit (316-02)

This pack extends the capabilities of the 316-01 PIC 3000 Microcontroller Study Module to include 32-bit microcontrollers.

- Introduction to C programming
- Program debugging



## Microcontroller Applications Board (316-35)

This pack extends the capabilities of the 316-01 PIC 3000 Microcontroller Study Module.

- Piezo sounder
- Potentiometer
- Motor
- Optical sender/receiver
- D-A and A-D converters



# Automotive Troubleshooting Hardware

## Auto Electronics Trainer (700-10)

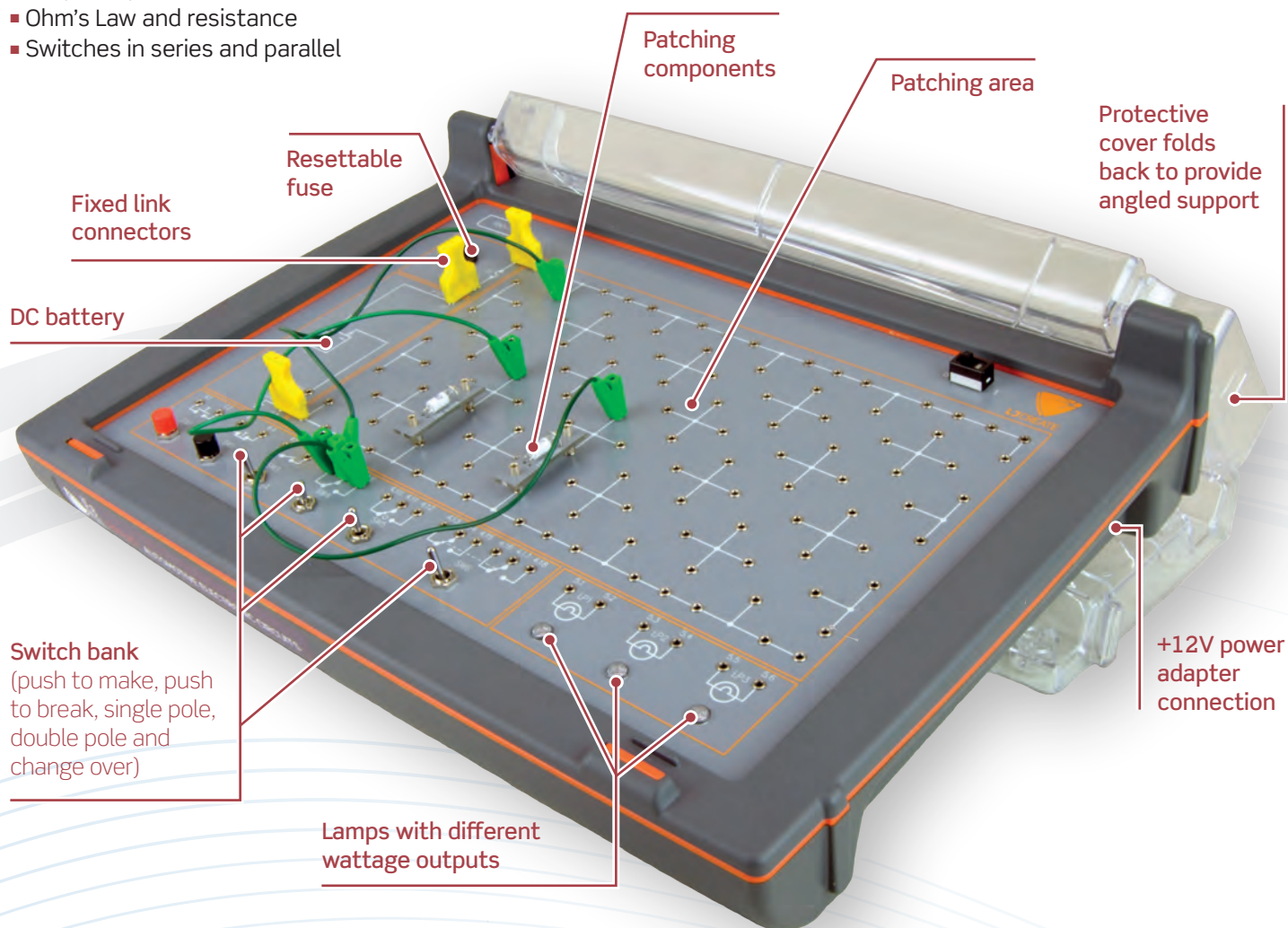
This hands-on learning resource allows students to build a variety of introductory automotive electronic circuits using a range of on-board and carrier-mounted components. Students are set tasks that encourage them to explore circuits practically to help develop their understanding of electrical components, circuits, and systems.

### Typical practical tasks and topics include:

- Measure and construct simple circuits
- Investigate the operation of battery, fuse, switch and lamp components
- Ohm's Law and resistance
- Switches in series and parallel

### Order as:

- 700-10 Auto Electronics Trainer





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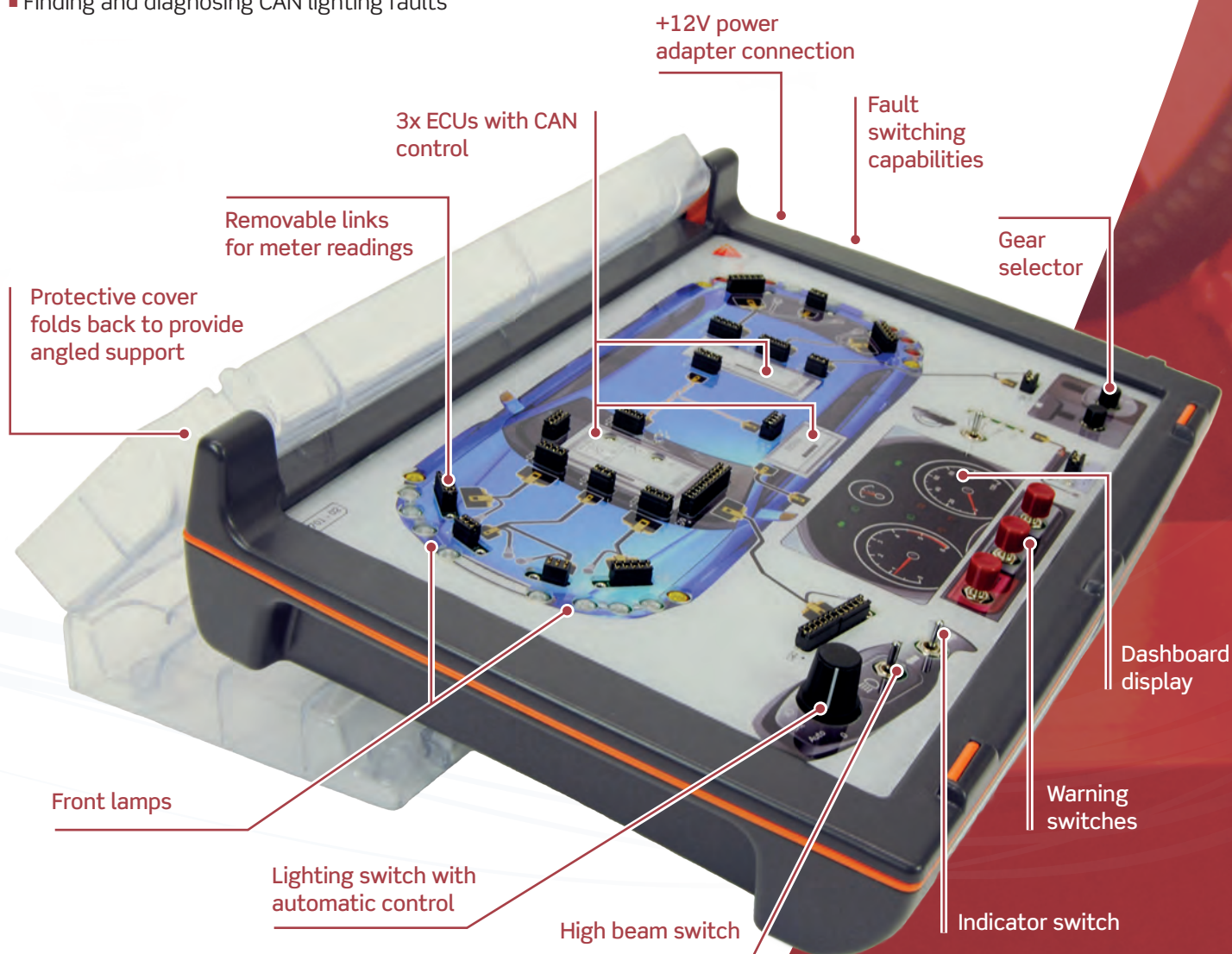
## Modern Automotive Lighting Circuits Trainer (701-02)

### Typical practical tasks and topics include:

- CAN bus lighting systems and CAN signals
- CAN control of lighting circuits: headlamp, brake, reverse, dipped beams, hazard warning lights, direction indicators, automatic lighting
- Finding and diagnosing CAN lighting faults

### Order as:

- 701-02 Modern Automotive Lighting Circuits Trainer



# ➔ Automotive Troubleshooting Hardware

## Modern Auxiliary Systems Trainer (721-01)

Students are set tasks that encourage them to explore CAN Bus electric window, door mirror, seat and central locking circuits practically and improve their knowledge of these systems.

Students will also be directed to work through a number of fault-finding activities (7 in all), encouraging fault-diagnosis skills.

### Order as:

- 721-01 Modern Auxiliary Systems Trainer



## Modern Starting and Charging Systems Trainer (720-02)

This trainer is focused on the starting and charging systems of a modern vehicle. Students are set tasks that encourage them to explore CAN Data Bus systems practically and also improve their knowledge of components, circuits, signals and systems.

Students will also be directed to work through a number of fault-finding activities (8 in all), encouraging fault-diagnosis skills.

### Order as:

- 720-02 Modern Starting and Charging Systems Trainer





# Hybrid Vehicle Systems Panel Trainer (756-01)



This trainer provides students and instructors with the opportunity to demonstrate, investigate, and fault-find a simulation of typical diesel electrical systems.

The trainer is designed to allow access to a variety of test points for vehicle electrical components, as well as provide an understanding of the overall system layout and configuration.

Order as:

- 756-01 Hybrid Vehicle Systems Panel Trainer

Power flow mimic allows students to investigate the balance between electrical and internal combustion power

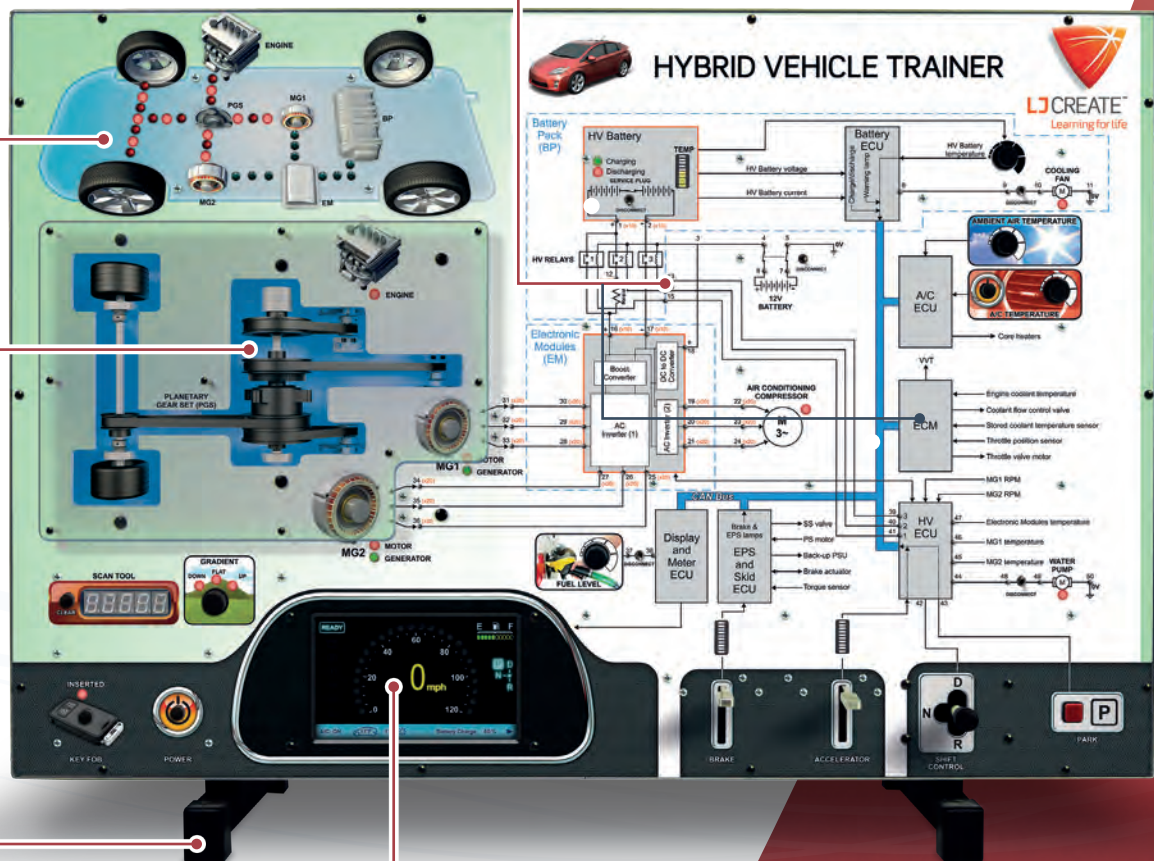
High and Low voltage system test points

Fault insertion options to simulate real-world system malfunctions

Planetary Gear Set

Retractable feet for desktop use (can also be wall-mounted)

Dashboard display



# Automotive Light Vehicle Hardware

## Engine (CAN and Climate Control) Trainer - Includes Fault Insertion (760-02)

This trainer provides a complete working engine with an engine management system incorporating CAN bus control technology. It also includes a fully-functional climate control system for group or whole-class demonstration.

The engine incorporates the very latest twin independent variable camshaft timing (Ti-VCT) technology to optimize performance, reduce emissions and increase fuel efficiency.

### Order as:

- 760-02 Engine Trainer - CAN and Climate Control

Air conditioning controls

Pin out connectors for all main sensors and actuators

Fully operational Engine

Mesh guards cover moving parts

Heater and air conditioning unit

Mesh guard for hot components

Easy access to most major/minor components

Exhaust (Silencer/ muffler for quiet operation)



## Sectioned 4-Cylinder Gasoline Engine Trainer (772-01)

This trainer provides the instructor with a complete 4-cylinder gasoline/petrol engine for group or whole-class demonstration. Mounted on a movable, heavy-duty steel frame.

The engine is operated by hand and is sectioned so that all moving parts can be seen, and the way they interact can be observed.

### Order as:

- 772-01 Sectioned Gasoline Engine Trainer



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## Sectioned Diesel Engine (Common Rail) Trainer (773-01)

This trainer provides the instructor with a complete 4-cylinder diesel engine for group or whole-class demonstration, mounted on a movable, heavy-duty steel frame.

The engine is operated by hand and is sectioned so that all moving parts can be seen and the way they interact can be observed.

### Order as:

- 773-01 Sectioned Diesel Engine (Common Rail) Trainer



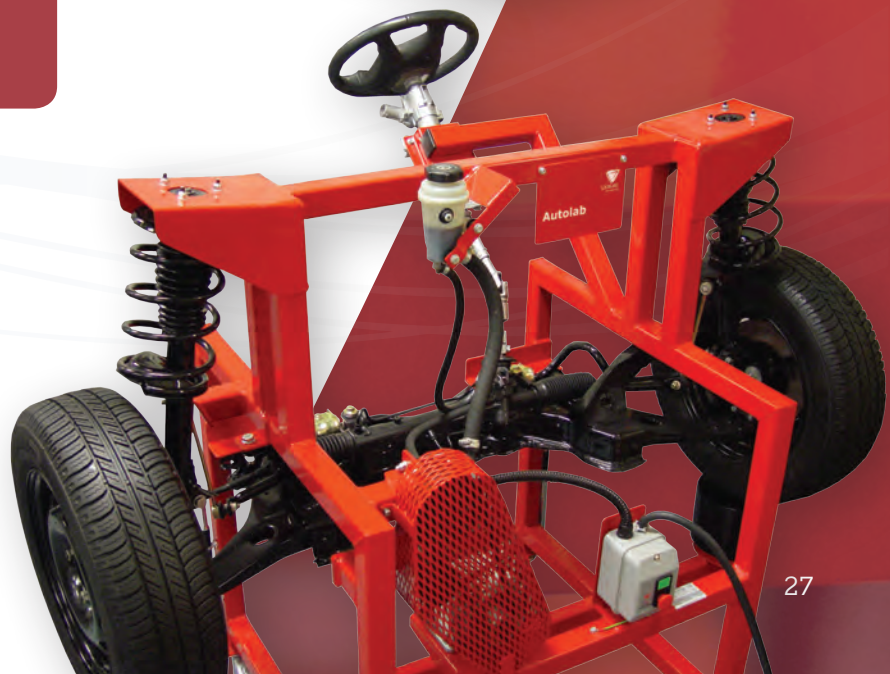
## Steering and Suspension System Trainer (764-01)

This real component trainer provides the instructor with a working steering and suspension system for group or whole-class demonstration.

This includes all the individual components of the system presented on a movable, steel frame so that each component can be clearly identified.

### Order as:

- 764-01 Steering and Suspension System Trainer



# Automotive Medium/Heavy Duty Hardware

## 6-Cylinder Truck Diesel Engine (Common Rail) Trainer - Includes Fault Insertion (776-01/6C)

This trainer provides the instructor with a complete working 6-cylinder heavy vehicle diesel engine with a Bosch EDC engine management system and high-pressure common rail fuel injection system. The trainer is mounted on a movable, heavy-duty steel frame.

### Trainer enables demonstration of the following:

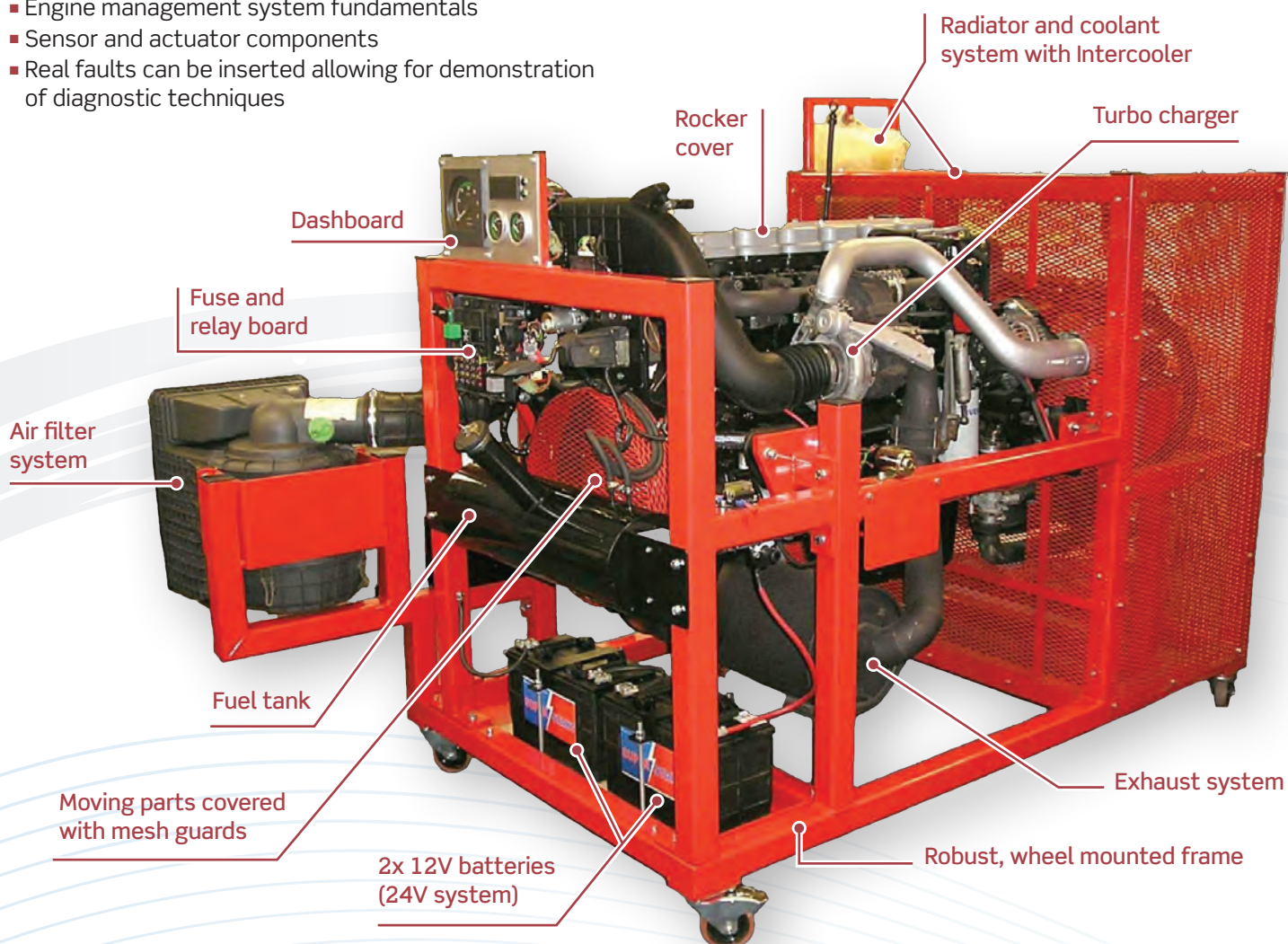
- The position and mounting of all engine components
- Engine management system fundamentals
- Sensor and actuator components
- Real faults can be inserted allowing for demonstration of diagnostic techniques

### Order as:

- 776-01/6C 6-Cylinder Truck Diesel Engine (Common Rail) Trainer - Includes Fault Insertion

### Also available:

- 776-01 4-Cylinder Truck Diesel Engine (Common Rail) Trainer - Includes Fault Insertion





## Sectioned Truck Diesel Engine (6-Cylinder) Trainer (779-01/6C)

This trainer provides the instructor with a fully sectioned 6-cylinder truck diesel engine for group or whole-class demonstration. The trainer is mounted on a self-contained steel frame and base plate, complete with castors.

### Order as:

- 779-01/6C Sectioned Truck Diesel Engine (6-Cylinder) Trainer

### Also available:

- 779-01 Sectioned Truck Diesel Engine (4-Cylinder) Trainer



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## Electronic Controlled Air Suspension Trainer (777-01)

This trainer provides the instructor with a fully operational Electronically Controlled Air Suspension (ECAS) trainer, manufactured using original components. It is based on a DAF ECAS III 4x2 truck.

The trainer is mounted on a self-contained steel frame and base plate, complete with castors.

### Order as:

- 777-01 Electronic Controlled Air Suspension Trainer



## Sectioned Truck Gearbox Trainer (780-01)

This trainer provides the instructor with a fully sectioned truck gearbox for group or whole-class demonstration. The trainer is mounted on a self-contained steel frame and base plate, complete with castors.

### Order as:

- 780-01 Sectioned Truck Gearbox Trainer



# → Online Lessons

## Courses from our library of college lessons

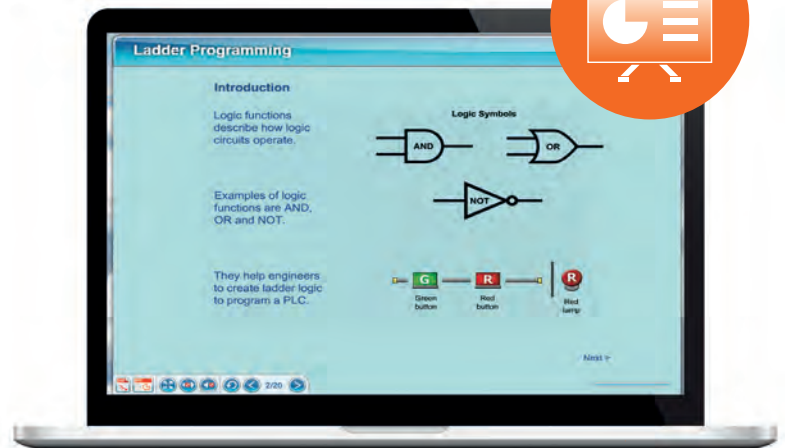
Our online library is a comprehensive resource of lessons for college students. An extensive range of presentations, investigations and assessments can be accessed through an online portal; no specialist software or downloads are needed.

### OUR 'COLLEGE-PACK' LESSONS ARE AVAILABLE IN THE FOLLOWING COURSE GROUPS:

- Materials Engineering
- Engineering Drawing
- Fluid Power
- Manufacturing Engineering
- Machine and Instrument Engineering
- Inspection, Maintenance and Quality Management
- Industrial Control
- Electronic Systems
- DC Circuits
- Electrical Networks
- AC Circuits
- Magnetism and Electromagnetism
- Electrical Engineering
- Linear Electronics

Using our LMS, teachers can quickly select and assign lessons to student groups where student progress can be tracked and reported. Ready-made courses for the more popular qualifications are also available.

Presentations

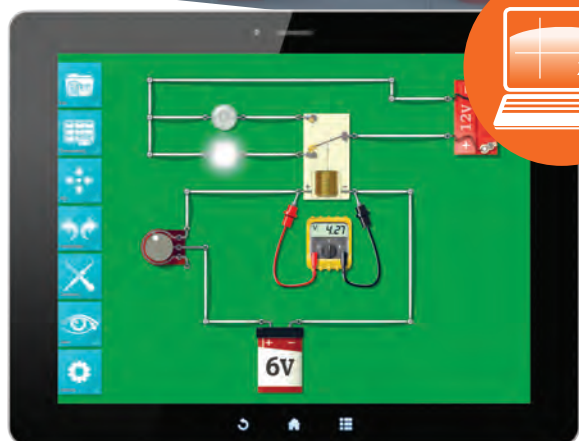


Investigations



- Semiconductors
- Power Electronics
- Digital Electronics
- Telecommunications
- Microprocessors
- Circuit Construction and Testing
- Electronic Principles (D3000 Practice)
- Semiconductors (D3000 Practice)
- Power Electronics (D3000 Practice)
- Digital Electronics (D3000 Practice)
- Avionics (D3000 Practice)
- Electronic Systems (Series 9 Practice)
- Electronic Principles (Series 9 Practice)
- Linear Electronics (Series 9 Practice)





- Semiconductors (Series 9 Practice)
- Digital Electronics (Series 9 Practice)
- Microprocessors (Series 9 Practice)
- Engine Repair
- Automatic Transmission and Transaxle
- Manual Drive Train and Axles
- Suspension
- Steering
- Brake Systems
- Brake Components
- Brake Servicing
- Automotive Electrical Fundamentals
- Automotive Starting and Charging
- Automotive Lighting
- Automotive Transducers
- Ignition Systems
- Engine Management and Control
- Fuel and Emissions
- Electric and Hybrid Vehicle Technology
- Networked Systems
- CAN Bus Lighting Systems
- CAN Bus Auxiliary Systems
- CAN Bus Starting and Charging Systems
- Automotive Heating and Air Conditioning
- Auto Shop
- Passenger Safety Systems
- Heavy Vehicle Systems
- Motorcycle Lighting
- Land Cruiser Complete Vehicle Systems
- Dynamometers
- Engineering Mathematics
- English Language Skills
- Business Skills
- Freight Logistics
- Workplace Problem Solving





For more information on our range of learning resources, please contact:

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