UEP

UNIVERSAL ENGINEERING PLATFORM
YESA-7000

UNIVERSAL ENGINEERING PLATFORM UEP CAT ver 3.7

YES01, NO.1 Company in exporting technical teaching equipment in 2017.
UNIVERSAL ENGINEERING PLATFORM is an electronic engineering program which can be also used as a virtual laboratory instrumentation to choose various modules with one UEP platform.

UEP UNIVERSAL ENGINEERING PLATFORM

Overview

Our UNIVERSAL ENGINEERING PLATFORM engineering electronics program provides comprehensive instruction with hands-on activities. The program can be tailored to support specific courses by selecting from an extensive range of Analogue and Digital circuit study modules.

Each study module includes a circuit board with printed lab manual. By mounting a circuit board onto either the UNIVERSAL ENGINEERING PLATFORM its electronic components can be powered, interconnected and monitored using either virtual or real test instrumentation.

The program offers expansion capabilities that include specialist electronics area such as Micro-controllers, Autotronics, Electronics.

Throughout the hands-on activities covered by the program, continuous use is made of fault insertion for troubleshooting and diagnostics. Students are directed through a logical faultfinding process that they can later apply to any electronic system.

A number of electronics project resources can help students develop component manipulation and circuit construction skills with both bread boarding systems and strip board soldered circuit.

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■ Supplied Benefits

- Convenient module changes with One-touch connection way.
- Supply all input power by a main component .
- DC, AC power signal about input signal is available with an additional function generator.
- Comparison experiment is available about changing of characteristics and variables .
- Easy access about circuit with graphic expression of module circuits.
- Digital Multimeter, Function Generator are included in the main equipment and also.
- Waveform of function Generator is consist of sine wave, triangle wave. square wave, saw tooth wave.
- Resource control using a 10.1 inches Tablet PC and optional Oscilloscope drive. (Option)

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■ Specification

Power Supply	DC Output : +/-0~20V 2A, +/-5V 1A,+/-15V 1A AC Output : 24V 0.5A, 12V 0.5A	**Inner oscilloscope (Optional)**	Channels : 2 Vertical resolution : 8bits Bandwidth : 25MHz Input ranges : +50mV ~ +20V Overvoltage protection : +100V Memory 16KB Maximum Sample rate : 200MS/s(ETSmode : 4GS/s) Trigger modes : None, auto, repeat, single Automatic measurements : Scope mode, Statistics Spectrum mode: - Frequency at peak, amplitude at peak, THD dB, SNR - SINAD, SFDR, total power, average amplitude at peak Mask limit testing : Mask generation(Numeric or Graphical) SDK/API : - 32 and 64bit drivers for Windows 7,8 and 10 - Linux drivers, mac OS X drivers Example code : - C, C#, Excel VBA, VB.NET, LabVIEW, MATLAB
Digital Multimeter	AC/DC Voltage : 1mV ~ 400V DC Current : 1mA ~ 4A R : 0~4MΩ		
Function Generator	1Hz ~ 100kHz (Max 20Vp-p) sine wave, triangle wave, square wave, saw tooth wave		
Realtime Control	OS : Windows 10 / Android lollipop 5.1.1		
Laboratory	CPU : Intel Atom Bay Trail /Quad core/1.33Ghz RAM : DDR 2GB In Memory : 32GB Out Memory : Maximum 128GB support LCD : 10.1inch IPS screen Resolution : 1280 x 800 Touch panel : 10points Capacitive multi-touch screen		
Input Power	AC 220V, 50/60Hz		

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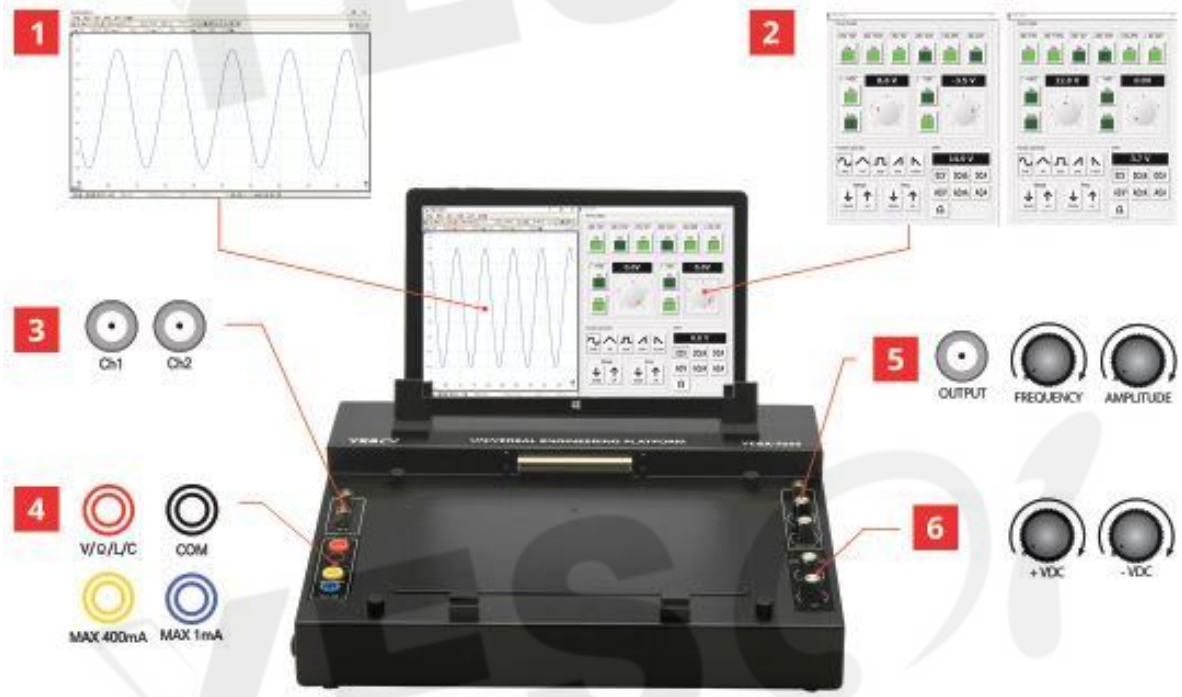
■ Composition



1 Oscilloscope display window

2 Measuring control and display

3 Oscilloscope

4 Digital Multimeter

5 Function Generator

6 Variable Power Supply

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■ Training Platform

							SERIAL DATA TRANSMISSONS
							COMMUNICATIONS TRANSMISSION LINES
				DC-DC CIRCUIT #2		ELECTRIC VEHICLE	FIBER OPTIC COMMUNICATIONS
			SIGNAL CONVERTER	DC-DC CIRCUIT #1		HYBRID VEHICLE	DIGITAL COMMUNICATIONS 4
TRANSFORMER		OSCILLATOR	COMBINATION LOGIC	AC PHASE CONTROLLER		VEHICLE DISPLAYS	DIGITAL COMMUNICATIONS 3
AC CIRCUIT	TRANSISTOR AMPLIFIER	POWER SUPPLY	SEQUENTIAL LOGIC	SINGLE PHASE INVERTER		ENGINE CONTROL	DIGITAL COMMUNICATIONS 2
MEASUREMENT CIRCUIT	SEMICONDUCTOR #2	ACTIVE FILTER	DIGITAL LOGIC	PHASE CONTROL RECTIFIER	MICRO PROCESSOR	IGNITION SYSTEMS	DIGITAL COMMUNICATIONS 1
DC CIRCUIT	SEMICONDUCTOR #1	OP AMPLIFIER	PULSE CIRCUIT	SWITCHING IC & RECTIFIER	ARDUINO	AUTO ELECTRICS	ANALOG COMMUNICATIONS
Electronic Circuit	**Electronic Circuit Application I**	**Electronic Circuit Application I**	**Logic Circuit**	**Power Electronics Training Module**	**Programming Training Module**	**Automotive Electronic Circuit Training Module**	**Telecommunication Training Module**
Electric & Electronic Training Module							
UNIVERSAL ENGINEERING PLATRORM							

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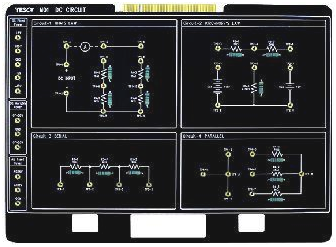
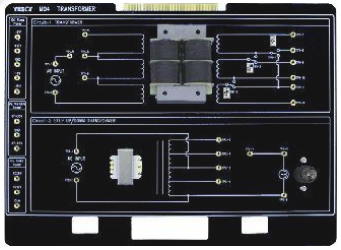
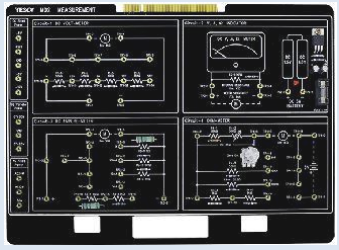
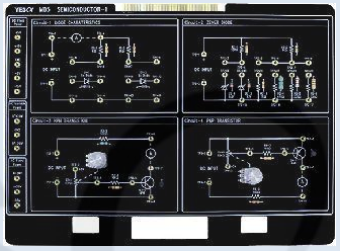
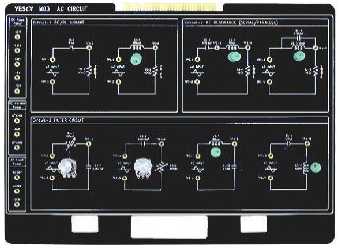
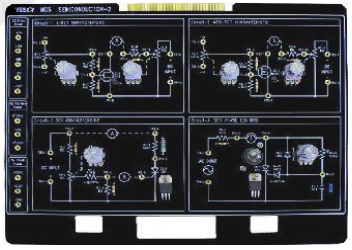
■ Available Training Module for ELECTRIC & ELECTRONIC

DC CIRCUIT **MODEL NAME : YESA-7101** 	**[Topic covered included]** Circuit-1. OHM's LAW Circuit-2. KIRCHHOFF's LAW Circuit-3. SERIAL Circuit-4. PARALLEL	**TRANSFORMER** **MODEL NAME : YESA-7104** 	**[Topic covered included]** Circuit-1. TRANSFORMER Circuit-2. STEP UP/DOWN TRANSFORMER
MEASUREMENT CIRCUIT **MODEL NAME : YESA-7102** 	**[Topic covered included]** Circuit-1. DC VOLT-METER Circuit-2. V, A, Ω INDICATOR Circuit-3. DC AMPERE-METER Circuit-4. OHM-METER	**SEMICONDUCTOR #1** **MODEL NAME : YESA-7105** 	**[Topic covered included]** Circuit-1. DIODE CHARACTERISTICS Circuit-2. ZENER DIODE Circuit-3. NPN TRANSISTOR Circuit-4. PNP TRANSISTOR
AC CIRCUIT **MODEL NAME : YESA-7103** 	**[Topic covered included]** Circuit-1. RC/RL CIRCUIT Circuit-2. LC RESONANCE Circuit-3. FILTER CIRCUIT	**SEMICONDUCTOR #2** **MODEL NAME : YESA-7106** 	**[Topic covered included]** Circuit-1. J-FET CHARACTERISTIC Circuit-2. MOS-FET CHARACTERISTIC Circuit-3. SCR CHARACTERISTIC Circuit-4. SCR PHASE CONTROL

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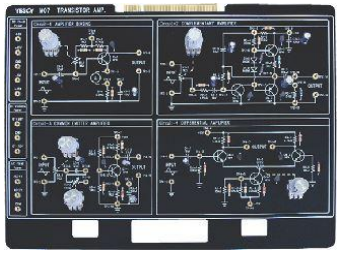
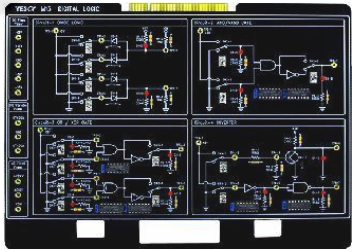
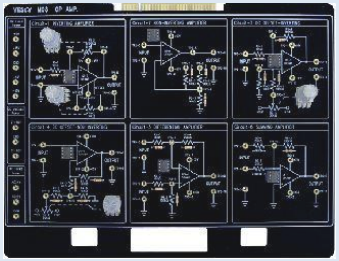
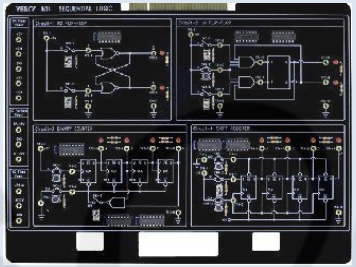
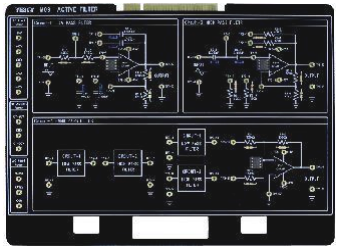
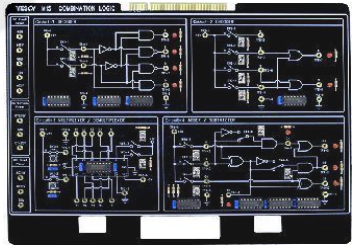
■ Available Training Module for ELECTRIC & ELECTRONIC

TRANSISTOR AMPLIFIER **MODEL NAME : YESA-7107** 	**[Topic covered included]** Circuit-1. AMPLIFIER BIASING Circuit-2. COMPLEMENTARY AMPLIFIER Circuit-3. COMMON EMITTER AMPLIFIER Circuit-4. DIFFERENTIAL AMPLIFIER	**POWER SUPPLY** **MODEL NAME : YESA-7110** 	**[Topic covered included]** Circuit-1. FIXED VOLTAGE REGULATOR (DIODE) Circuit-2. VARIABLE VOLTAGE REGULATOR (TR) Circuit-3. VARIABLE VOLTAGE REGULATOR (OPAMP)
OP AMPLIFIER **MODEL NAME : YESA-7108** 	**[Topic covered included]** Circuit-1. INVERTING AMPLIFIER Circuit-2. NON-INVERTING AMPLIFIER Circuit-3. DC OFFSET AMPLIFIER Circuit-4. DIFFERENTIAL AMPLIFIER Circuit-5. SUMMING AMPLIFIER	**OSCILLATOR** **MODEL NAME : YESA-7111** 	**[Topic covered included]** Circuit-1. PHASE SHIFT OSC. Circuit-2. CRYSTAL OSC. Circuit-3. TIMER IC OSC. Circuit-4. COLPITTS OSC. Circuit-5. HARTLEY OSC.
ACTIVE FILTER **MODEL NAME : YESA-7109** 	**[Topic covered included]** Circuit-1. LOW PASS FILTER Circuit-2. HIGH PASS FILTER Circuit-3. BAND PASS FILTER	**PULSE CIRCUIT** **MODEL NAME : YESA-7112** 	**[Topic covered included]** Circuit-1. CLIPPING, CLAMPING Circuit-2. SCHMITT TRIGGER Circuit-3. BISTABLE MULTIVIBRATOR Circuit-4. MONOSTABLE MULTIVIBRATOR

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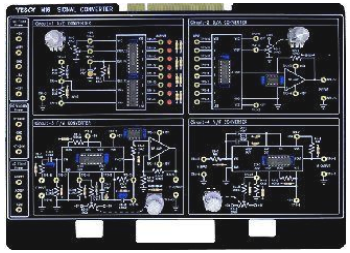
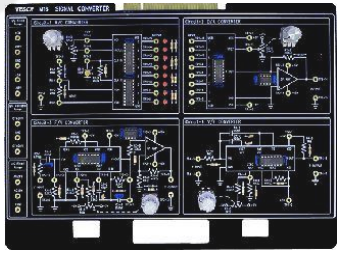
■ Available Training Module for ELECTRIC & ELECTRONIC

DIGITAL LOGIC
MODEL NAME : YESA-7113



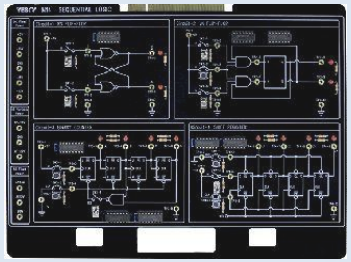
[Topic covered included]
Circuit-1. DIODE LOGIC
Circuit-2. AND/NAND GATE
Circuit-3. OR/XOR GATE
Circuit-4. INVERTER

SIGNAL CONVERTER
MODEL NAME : YESA-7116



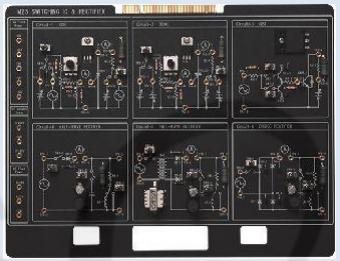
[Topic covered included]
Circuit-1. A/D CONVERTER
Circuit-2. D/A CONVERTER
Circuit-3. F/V CONVERTER
Circuit-4. V/F CONVERTER

SEQUENTIAL LOGIC
MODEL NAME : YESA-7114



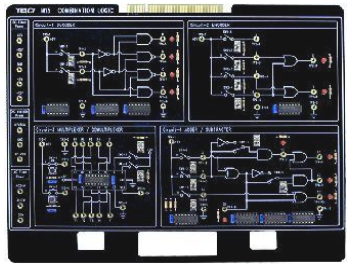
[Topic covered included]
Circuit-1. RS FLIP-FLOP
Circuit-2. JK FLIP-FLOP
Circuit-3. BINARY COUNTER
Circuit-4. SHIFT REGISTER

SWITCHING IC & RECTIFIER
MODEL NAME : YESA-7301



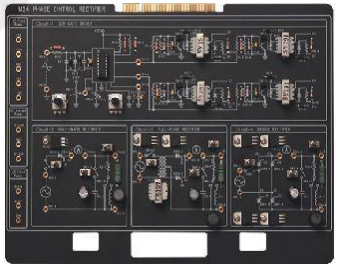
[Topic covered included]
Circuit-1 SCR
Circuit-2 TRIAC
Circuit-3 IGBT
Circuit-4 HALF-WAVE RECTIFIER
Circuit-5 FULL-WAVE RECTIFIER
Circuit-6 BRIDGE RECTIFIER

COMBINATION LOGIC
MODEL NAME : YESA-7115



[Topic covered included]
Circuit-1. DECODER
Circuit-2. ENCODER
Circuit-3. MULTIPLEXER/DEMULTIPLEXER
Circuit-4. ADDER/SUBTRACTER

PHASE CONTROL RECTIFIER
MODEL NAME : YESA-7302



[Topic covered included]
Circuit-1 SCR GATE DRIVER
Circuit-2 HALF-WAVE RECTIFIER
Circuit-3 FULL-WAVE RECTIFIER
Circuit-4 BRIDGE RECTIFIER

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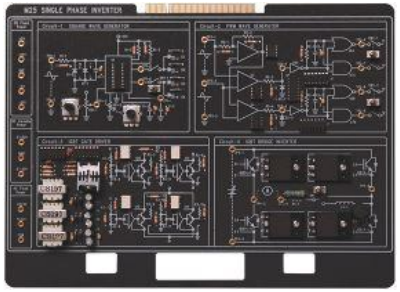
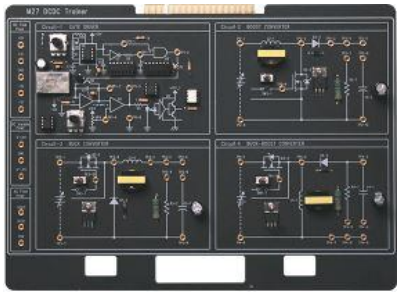
■ Available Training Module for ELECTRIC & ELECTRONIC

SINGLE PHASE INVERTER
MODEL NAME : YESA-7303



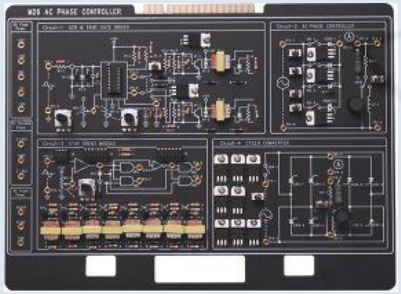
[Topic covered included]
Circuit-1 SQUARE WAVE GENERATOR
Circuit-2 PWM WAVE GENERATOR
Circuit-3 IGBT GATE DRIVER
Circuit-4 IGBT BRIDGE INVERTER

DC-DC CIRCUIT #1
MODEL NAME : YESA-7305



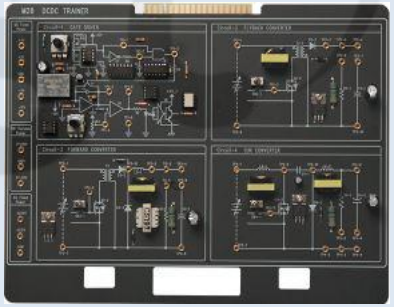
[Topic covered included]
Circuit-1 GATE DRIVER
Circuit-2 BOOST CONVERTER
Circuit-3 BUCK CONVERTER
Circuit-4 BUCK-BOOST CONVERTER

AC PHASE CONTROLLER
MODEL NAME : YESA-7304



[Topic covered included]
Circuit-1 SCR & TRIAC GATE DRIVER
Circuit-2 AC PHASE CONTROLLER
Circuit-3 GATE DRIVER MODULE
Circuit-4 CYCLO CONVERTER

DC-DC CIRCUIT #2
MODEL NAME : YESA-7306



[Topic covered included]
Circuit-1 GATE DRIVER
Circuit-2 FLYBACK CONVERTER
Circuit-3 FORWARD CONVERTER
Circuit-4 CUK CONVERTER

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■ Available Training Module for ELECTRIC & ELECTRONIC

MICRO PROCESSOR
MODEL NAME : YESA-7401

[Topic covered included]
Circuit-1 7-SEGMENT
Circuit-2 CHARACTER LCD
Circuit-3 GRAPHIC LCD
Circuit-4 BUZZER
Circuit-5 ADC
Circuit-6 RS-232C
Circuit-7 LED

Circuit-8 SWITCH
Circuit-9 KEYPAD
Circuit-10 DOT MATRIX
Circuit-11 STEP MOTOR DRIVE
Circuit-12 DC MOTOR DRIVE

PROCESSOR is ATmega128A / 16MHz

ARDUINO
MODEL NAME : YESA-7402

[Topic covered included]
Circuit-1 ARDUINO UNO
Circuit-2 DOT MATRIX
Circuit-3 CDS
Circuit-4 TEMP SEN
Circuit-5 RTC
Circuit-6 7-SEGMENT
Circuit-7 PIEZO
Circuit-8 BUZZER
Circuit-9 CHARACTER LCD
Circuit-10 RFID
Circuit-11 SOUND SEN

Circuit-12 BLUETOOTH
Circuit-13 HUMIDITY
Circuit-14 GRAPHIC LCD
Circuit-15 LED
Circuit-16 SWITCH
Circuit-17 KEYPAD
Circuit-18 IR RECEIVER
Circuit-19 JOYSTICK
Circuit-20 POT'METER
Circuit-21 RC SERVO
Circuit-22 STEP MOTOR DRIVE

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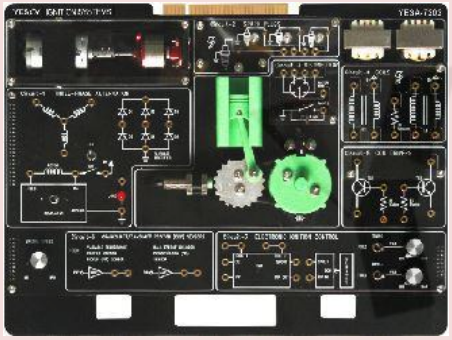
■ Available Training Module for AUTOMOTIVE ELECTRONIC CIRCUIT

AUTO ELECTRICS
MODEL NAME : YESA-7201

[Topic covered included]

1. Battery and fuse experiment
   - Maintenance, battery testing, battery charge, battery combine, fuse type, etc.
2. Starter and solenoid experiment
   - Synchronous motor form, adjusting gear, heavy duty motor, etc.
3. Horn and relay experiment
   - Horn type, relay operating principles, type of relay.
4. Light circuit experiment
   - Lighting Act, bulb aft, upward lamp, direction signals, hazard warning light.
5. Brake and reversing light,
   - circuit diagram, general combining etc.
6. Fault find-out experiment

IGNITION SYSTEMS
MODEL NAME : YESA-7202



[Topic covered included]

1. Electrical ignition circuit experiment
   - Coil, point, spark plug simulation, etc.
2. Timing adjustment experiment
   - Use the Strobotron light , adjust a halt in the operation, etc.
3. Electrical ignition circuit experiment
   - Solid-state sensor, Electronic ignition control etc.
4. Alternating current experiment
5. Voltage commutation experiment
6. Synchronous generators experiment
7. Single phase, three phases etc.
8. Voltage regulation and battery charge
9. Find-out vehicle circuit fault

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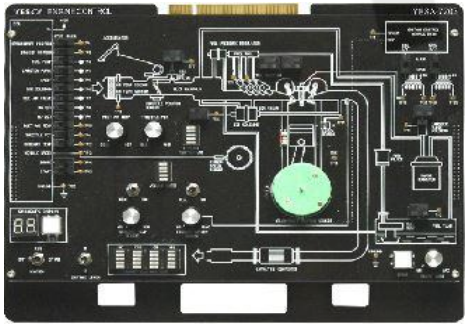
■ Available Training Module for AUTOMOTIVE ELECTRONIC CIRCUIT

ENGINE CONTROL
MODEL NAME : YESA-7203



[**Topic covered included**]

1. Crankshaft position sensor, and the experiment of the Crankshaft position sensor
2. Entrance air temperature sensor and thermic rays air inducive sensor, experiment
3. Potential meter on throttle and speed sensor experiment
4. Coolant temperature sensor and knocking sensor experiment
5. Exhaust oxygen sensor and ignition coil experiment
6. Fuel pump, injector, and idle air valve experiment

VEHICLE DISPLAYS
MODEL NAME : YESA-7204

[Topic covered included]

1. Car speed and engine speed measuring device experiment
2. Direction indicating warning light and seat
3. Belt warning light experiment
4. Fuel level and oil pressure experiment
5. Water temperature exercise and brake warning light experiment
6. Lamp monitoring and brake experiment

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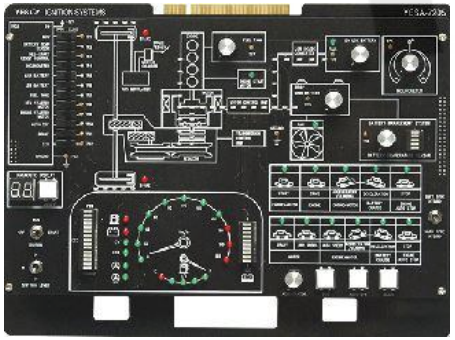
■ Available Training Module for AUTOMOTIVE ELECTRONIC CIRCUIT

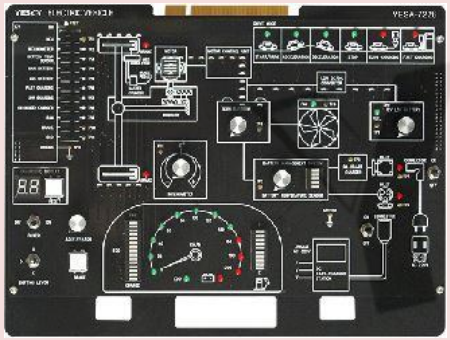
HYBRID VEHICLE
MODEL NAME : YESA-7205



[Topic covered included]

1. Automobile's energy flow chart by operational checking experiment
2. Experiment for change of state in accordance with battery voltage and temperature change
3. High voltage battery and supplementary battery charging experiment
4. Experiment for change of state in accordance with motor controller's operate or non-operate
5. Automatic stop mode experiment
6. Hill start assist system experiment
7. Eco-mode experiment
8. Regeneration brake system experiment
9. HEV, engine starter motor conditions and experiment
10. Soft and hard hybrid type experiment
11. Fault find-out experiment

ELECTRIC VEHICLE
MODEL NAME : YESA-7206



[Topic covered included]

1. Automobile's energy flow chart by operational checking experiment
2. Experiment for change of state in accordance with battery voltage and temperature change
3. High voltage battery and supplementary battery charging experiment
4. Experiment for change of state in accordance with motor controller's operate or nonoperate
5. Automatic stop mode experiment
6. Hill start assist system experiment
7. Eco-mode experiment
8. Regeneration brake system experiment
9. HEV, engine starter motor conditions and experiment
10. Soft and hard hybrid type experiment
11. Fault find-out experiment

YES01 work for customer's happy life

Thank you for your attention

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YES01, NO.1 Company in exporting technical teaching equipment in 2017.
UNIVERSAL ENGINEERING PLATFORM is an electronic engineering program which can be also used as a virtual laboratory instrumentation to choose various modules with one UEP platform.