

UEP

UNIVERSAL ENGINEERING PLATFORM YESA-7000



UNIVERSAL ENGINEERING PLATFORM UEP CAT Ver 4.9

YES01, NO.1 Company in exporting technical teaching equipment in 2020

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.

■ Overview



YESA-7100A

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.

■ 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)

■ Specification_YESA-7100A

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		

■ Composition



1 Oscilloscope display window

3 Oscilloscope

5 Function Generator

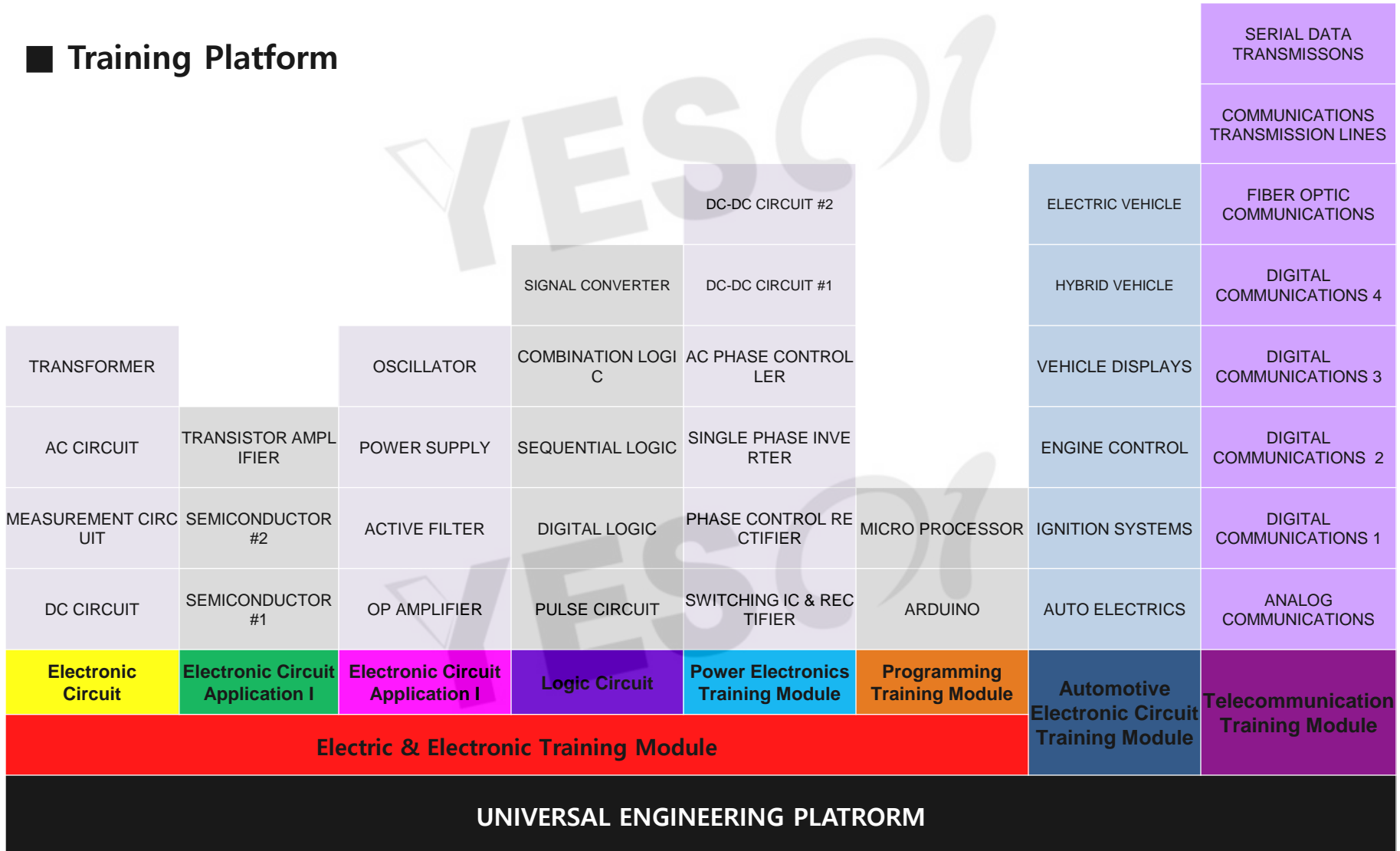
2 Measuring control and display

4 Digital Multimeter

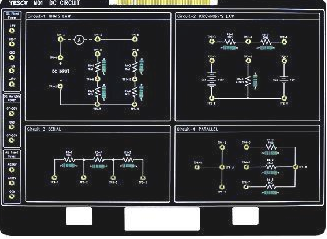
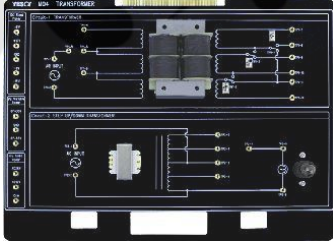
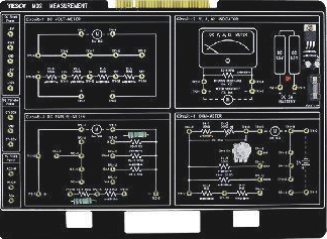
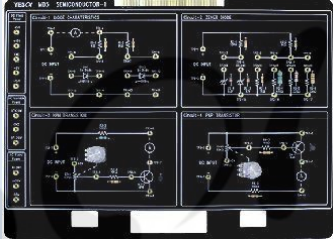
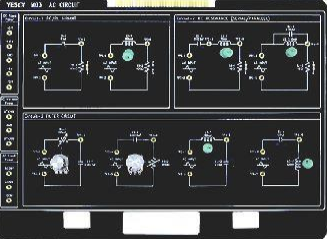
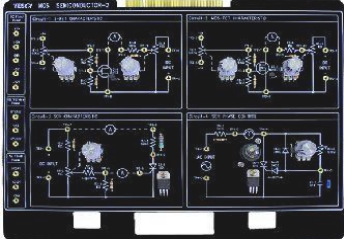
6 Variable Power Supply

UEP UNIVERSAL ENGINEERING PLATFORM

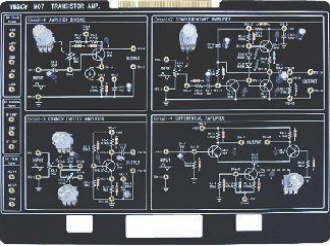
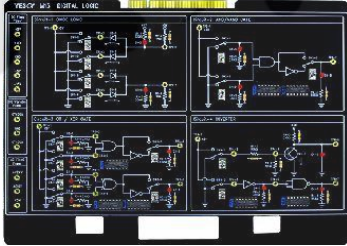
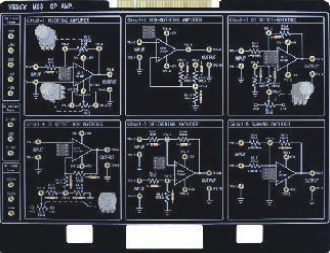
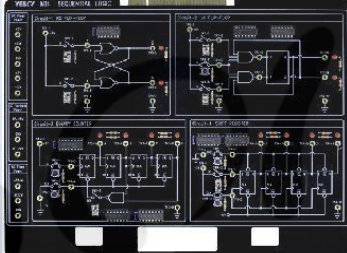
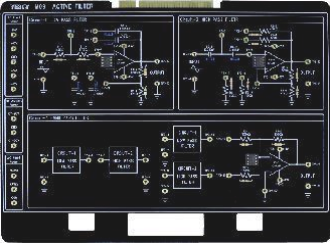
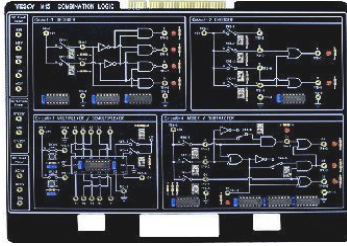
■ Training Platform



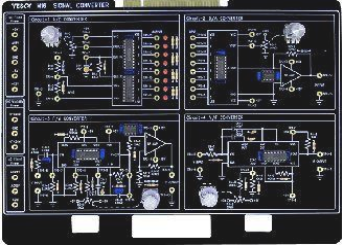
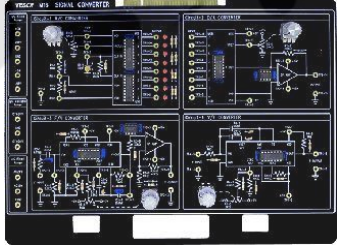
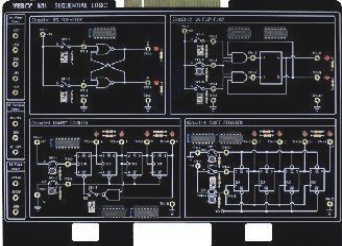
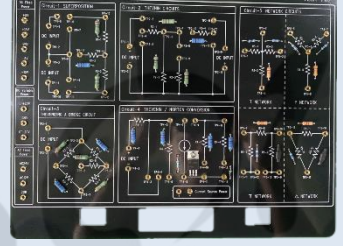
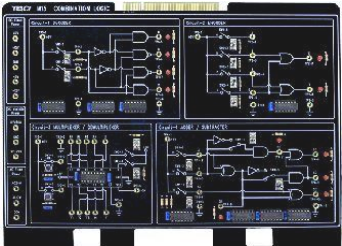
Available Training Module for ELECTRIC & ELECTRONIC

<p>DC CIRCUIT MODEL NAME : YESA-7101</p> 	<p>[Topic covered included]</p> <p>Exp.1. OHM's LAW Exp.2. KIRCHHOFF's LAW Exp.3. SERIAL Exp.4. PARALLEL Exp.5. Experiment of Impedance Exp.6 Voltage, Current Measurement</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 	<p>TRANSFORMER MODEL NAME : YESA-7104</p> 	<p>[Topic covered included]</p> <p>Exp.1. TRANSFORMER Exp.2. STEP UP/DOWN TRANSFORMER Exp.3 Comparison of input and output Exp.4 Turn ratio practice of Transformer Exp.5 Output value change according to wiring method Exp.6 Experiment of Transformer application</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software
<p>MEASUREMENT CIRCUIT MODEL NAME : YESA-7102</p> 	<p>[Topic covered included]</p> <p>Exp.1. DC VOLT-METER Exp.2. V, A, Ω INDICATOR Exp.3. DC AMPERE-METER Exp.4. OHM-METER Exp.5 Principal of Multi-Meter Exp.6 Measuring Ohm-Meter based on range</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 	<p>SEMICONDUCTOR #1 MODEL NAME : YESA-7105</p> 	<p>[Topic covered included]</p> <p>Exp.1. DIODE CHARACTERISTICS Exp.2. ZENER DIODE Exp.3. NPN TRANSISTOR Exp.4. PNP TRANSISTOR Exp.5 Transistor based on switch Exp.6 Transistor based on amplifier Exp.7 Feedback of amplifier</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software
<p>AC CIRCUIT MODEL NAME : YESA-7103</p> 	<p>[Topic covered included]</p> <p>Exp.1. RC/RL Exp. Exp.2. LC RESONANCE Exp.3. FILTER Exp. Exp.4 Experiment of R,L,C application Exp.5 Experiment of RC Filter Exp.6 Experiment of LC Filter Exp.7 R,L,C combination Filter Exp.8 Output comparison based on resistance value</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 	<p>SEMICONDUCTOR #2 MODEL NAME : YESA-7106</p> 	<p>[Topic covered included]</p> <p>Exp.1. J-FET CHARACTERISTIC Exp.2. MOS-FET CHARACTERISTIC Exp.3. SCR CHARACTERISTIC Exp.4. SCR PHASE CONTROL Exp.5 Comparison of output of J, MOS-FET Exp.6 Comparison of SCR and Transistor Exp.7 Experiment of SCR application</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software

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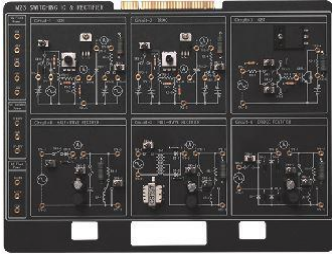
<p>TRANSISTOR AMPLIFIER MODEL NAME : YESA-7107</p> 	<p>[Topic covered included] Exp.1. AMPLIFIER BIASING Exp.2. COMPLEMENTARY AMPLIFIER Exp.3. COMMON EMITTER AMPLIFIER Exp.4. DIFFERENTIAL AMPLIFIER Exp.5 Transistor amplifier test Exp.6 Sequential amplifier circuit practice with multiple transistors Exp.7 Experiment on various transistor</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 	<p>POWER SUPPLY MODEL NAME : YESA-7110</p> 	<p>[Topic covered included] Exp.1. FIXED VOLTAGE REGULATOR(DIODE) Exp.2. VARIABLE VOLTAGE Exp.3. VARIABLE VOLTAGE REGULATOR (OPAMP) Exp.4 Bridge Rectifier Exp.5 Experiment on Half, Full Bridge Rectifier Exp.6 Combining Transistor and OP-Amp</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software
<p>OP AMPLIFIER MODEL NAME : YESA-7108</p> 	<p>[Topic covered included] Exp.1. INVERTING AMPLIFIER Exp.2. NON-INVERTING AMPLIFIER Exp.3. DC OFFSET AMPLIFIER Exp.4. DIFFERENTIAL AMPLIFIER Exp.5. SUMMING AMPLIFIER Exp.5 Experiment on feedback of amplifier Exp.6 Experiment on Combination amplifier</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 	<p>OSCILLATOR MODEL NAME : YESA-7111</p> 	<p>[Topic covered included] Exp.1. PHASE SHIFT OSC. Exp.2. CRYSTAL OSC. Exp.3. TIMER IC OSC. Exp.4. COLPITTS OSC. Exp.5. HARTLEY OSC. Exp.6 Colpitts, Hartley OSC. Output Exp.7 Practice output values for each OSC Exp.8 Experiment of Oscillator application</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software
<p>ACTIVE FILTER MODEL NAME : YESA-7109</p> 	<p>[Topic covered included] Exp.1. LOW PASS FILTER Exp.2. HIGH PASS FILTER Exp.3. BAND PASS FILTER Exp.4 Experiment on R,L,C Filter comparison Exp.5 Multi Pass Filter Exp.6 Experiment of Filter application</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 	<p>PULSE Circuit MODEL NAME : YESA-7112</p> 	<p>[Topic covered included] Exp.1. CLIPPING, CLAMPING Exp.2. SCHMITT TRIGGER Circuit-3. BISTABLE MULTIVIBRATOR Exp.4. MONOSTABLE MULTIVIBRATOR Exp.5 Comparing output values for BISTABLE and MONOSTABLE Multivibrator Exp.6 Experiment of Pulse application Exp.7 Combination Trigger Circuit</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software

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<p>DIGITAL LOGIC MODEL NAME : YESA-7113</p> 	<p>[Topic covered included]</p> <p>Exp.1. DIODE LOGIC Exp.2. AND/NAND GATE Exp.3. OR/XOR GATE Exp.4. INVERTER Exp.5 Digital output signal comparison exercise through switch control Exp.6 Comparing output signal Exp.7 Practice of Inverter circuit using Transistor and IC</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 	<p>SIGNAL CONVERTER MODEL NAME : YESA-7116</p> 	<p>[Topic covered included]</p> <p>Exp.1. A/D CONVERTER Exp.2. D/A CONVERTER Exp.3. F/V CONVERTER Exp.4. V/F CONVERTER Exp.5 ADC merging circuit Exp.6 F / V <-> V / F comparison circuit Exp.7 Converter circuit principle</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software
<p>SEQUENTIAL LOGIC MODEL NAME : YESA-7114</p> 	<p>[Topic covered included]</p> <p>Exp.1. RS FLIP-FLOP Exp.2. JK FLIP-FLOP Exp.3. BINARY COUNTER Exp.4. SHIFT REGISTER Exp.5 RS, JK Flip-Flop Output Comparison Exp.6 Experiment of Shift Resistor application</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 	<p>DC Network Theorems MODEL NAME : YESA-7117</p> 	<p>[Topic covered included]</p> <p>Exp.1. Superposition Exp.2. Thevenin circuits Exp.3. Network circuits Exp.4. Thevenize a bridge circuit Exp.5 Thevenin/Norton conversion</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software
<p>COMBINATION LOGIC MODEL NAME : YESA-7115</p> 	<p>[Topic covered included]</p> <p>Exp.1. DECODER Exp.2. ENCODER Exp.3. MULTIPLEXER/DEMULTIPLEXER Exp.4. ADDER/SUBTRACTOR Exp.5 Encoder and decoder merging Exp.6 Signal control</p> <p>* Including</p> <ul style="list-style-type: none"> • Practice theory manual • CAI Software 		

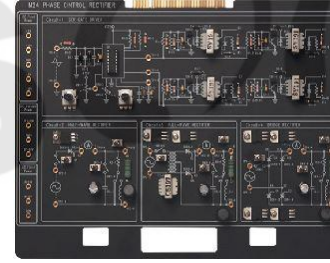
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SWITCHING IC & RECTIFIER MODEL NAME : YESA-7301



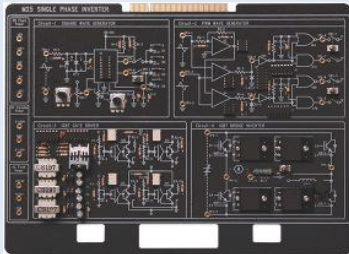
- [Topic covered included]
- Exp.1 SCR
 - Exp.2 TRIAC
 - Exp.3 IGBT
 - Exp.4 HALF-WAVE RECTIFIER
 - Exp.5 FULL-WAVE RECTIFIER
 - Exp.6 BRIDGE RECTIFIER
 - Exp.7 Comparing characteristics of Rectifier
- * **Including**
- Practice theory manual
 - CAI Software

PHASE CONTROL RECTIFIER MODEL NAME : YESA-7302



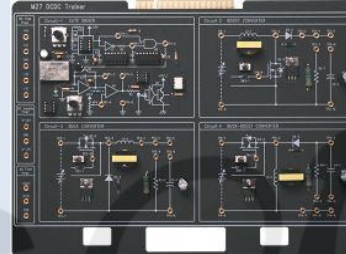
- [Topic covered included]
- Exp.1 SCR GATE DRIVER
 - Exp.2 HALF-WAVE RECTIFIER
 - Exp.3 FULL-WAVE RECTIFIER
 - Exp.4 BRIDGE RECTIFIER
 - Exp.5 Half, Full, Bridge Rectifier output comparison
 - Exp.6 Experiment of SCR Gate Driver application
- * **Including**
- Practice theory manual
 - CAI Software

SINGLE PHASE INVERTER MODEL NAME : YESA-7303



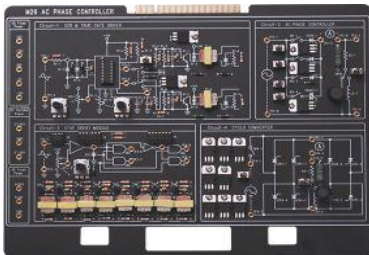
- [Topic covered included]
- Exp.1 SQUARE WAVE GENERATOR
 - Exp.2 PWM WAVE GENERATOR
 - Exp.3 IGBT GATE DRIVER
 - Exp.4 IGBT BRIDGE INVERTER
 - Exp.5 Combination Inverter circuit
 - Exp.6 Single Phase Inverter principal
- * **Including**
- Practice theory manual
 - CAI Software

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



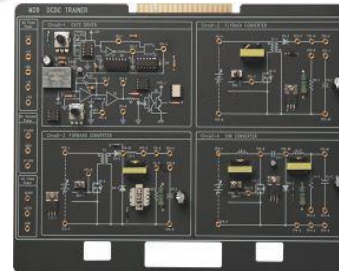
- [Topic covered included]
- Exp.1 GATE DRIVER
 - Exp.2 BOOST CONVERTER
 - Exp.3 BUCK CONVERTER
 - Exp.4 BUCK-BOOST CONVERTER
 - Exp.5 DC-DC Converter Output Comparison
 - Exp.6 Driver circuit and converter circuit combination
 - Exp.7 Experiment of Converter Basic
- * **Including**
- Practice theory manual
 - CAI Software

AC PHASE CONTROLLER MODEL NAME : YESA-7304



- [Topic covered included]
- Exp.1 SCR & TRIAC GATE DRIVER
 - Exp.2 AC PHASE CONTROLLER
 - Exp.3 GATE DRIVER MODULE
 - Exp.4 CYCLO CONVERTER
 - Exp.5 Experiment on AC Phase Controller
 - Exp.6 AC output comparison based on output value
- * **Including**
- Practice theory manual
 - CAI Software

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



- [Topic covered included]
- Exp.1 GATE DRIVER
 - Exp.2 FLYBACK CONVERTER
 - Exp.3 FORWARD CONVERTER
 - Exp.4 CUK CONVERTER
 - Exp.5 Comparison of DC-DC Converter output
 - Exp.6 Circuit combination of Driver and Converter circuit
 - Exp.7 Experiment of Converter application
- * **Including**
- Practice theory manual
 - CAI Software

Available Training Module for ELECTRIC & ELECTRONIC

MICRO PROCESSOR MODEL NAME : YESA-7401



[Topic covered included]

- Exp.1 7-SEGMENT
- Exp.2 CHARACTER LCD
- Exp.3 GRAPHIC LCD
- Exp.4 BUZZER
- Exp.5 ADC
- Exp.6 RS-232C
- Exp.7 LED
- Exp.8 SWITCH
- Exp.9 KEYPAD

- Exp.10 DOT MATRIX
- Exp.11 STEP MOTOR DRIVE
- Exp.12 DC MOTOR DRIVE

PROCESSOR is ATmega128A / 16MHz

* Including

- Practice theory manual
- CAI Software

ARDUINO MODEL NAME : YESA-7402



[Topic covered included]

- Exp.1 ARDUINO UNO
- Exp.2 DOT MATRIX
- Exp.3 CDS
- Exp.4 TEMP SEN
- Exp.5 RTC
- Exp.6 7-SEGMENT
- Exp.7 PIEZO
- Exp.8 BUZZER
- Exp.9 CHARACTER LCD
- Exp.10 RFID
- Exp.11 SOUND SEN
- Exp.12 BLUETOOTH
- Exp.13 HUMIDITY

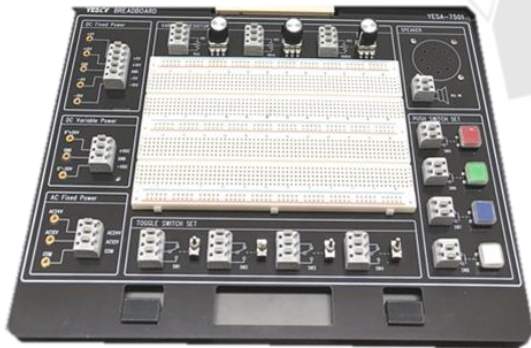
- Exp.14 GRAPHIC LCD
- Exp.15 LED
- Exp.16 SWITCH
- Exp.17 KEYPAD
- Exp.18 IR RECEIVER
- Exp.19 JOYSTICK
- Exp.20 POT'METER
- Exp.21 RC SERVO
- Exp.22 STEP MOTOR DRIVE

* Including

- Practice theory manual
- CAI Software

Available Training Module for ELECTRIC & ELECTRONIC

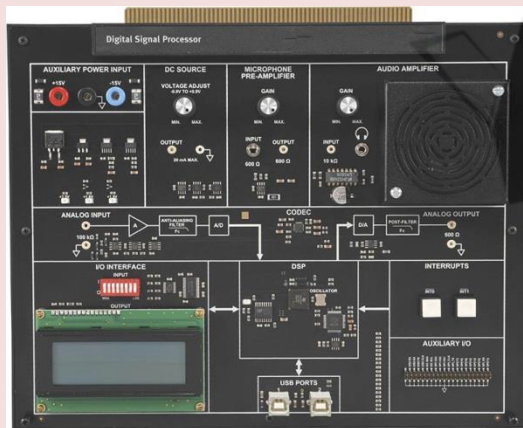
Digital logic trainer Breadboard based
MODEL NAME : YESA-7403



[Topic covered included]

- resistance
- Variable resistor
- CDS
- Condenser
- speaker
- diode
- SCR
- transistor
- oscillator
- Comparator
- Regulator
- * **Including**
- Practice theory manual
- CAI Software

DIGITAL SIGNAL PROCESSOR
MODEL NAME : YESA-7404



[Topic covered included]

- Familiarization with DSPs and DSP programming, Overview of the DSP Circuit Board, The Integrated Development Environment (IDE) and Project Structure
- DSP Architecture, Processor Arithmetic, The Data Computation Unit, Memory, Addressing
- I/O and Peripherals, An Application Using I/Os and Peripherals
- DSP Real-time Processing, Sampling and Analog-to-Digital/Digital-to-Analog Conversion, The Fast Fourier transform (FFT), Optimizing DSP applications
- Signal Processing Applications, FIR and IIR Filters

■ Available Training Module for **AUTOMOTIVE ELECTRONIC CIRCUIT**

AUTO ELECTRICS
MODEL NAME : YESA-7201



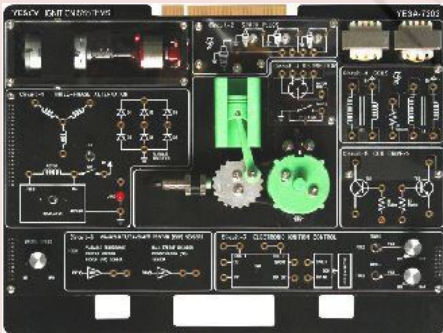
[Topic covered included]

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

*** Including**

- Practice theory manual
- CAI Software

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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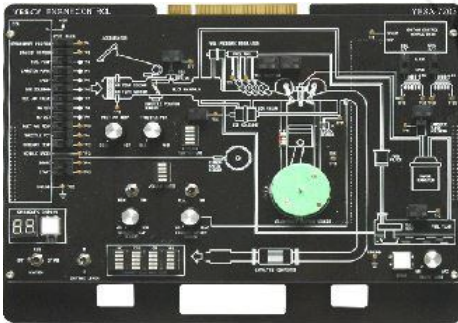
- Part 1.Contact Breaker Ignition System
 - Part 1-1. Distributor
 - Part 1-2. Spark plug
 - Part 1-3. Ignition timing advance portion
- Part 2.Transistor Ignition System
- Part 3.Computer controlled ignition system
 - Part 3-1. Sensor
 - Part 3-2. Computer controlled ignition system
- Part 4.Alternator

*** Including**

- Practice theory manual
- CAI Software

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 inductive 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

* Including

- Practice theory manual
- CAI Software

Table of Contents

- Part 1.Engine rotation position and speed sensor
- Part 2.Vehicle Speed Sensor (VSS)
- Part 3.Throttle Position Sensor (TPS)
- Part 4.Coolant temperature sensor
- Part 5.Air Flow Sensor(AFS), Air Temp Sensor(ATS)
- Part 6.Knock Sensor
- Part 7.Oxygen Sensor
- Part 8.Injector
- Part 9.Fuel Pump
- Part 10.Exhaust Gas Recirculation(EGR) System
- Part 11.Purge control solenoid system
- Part 12.Idle Speed Actuator (ISA)
- Part 13.Exhaust Gas

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

* Including

- Practice theory manual
- CAI Software

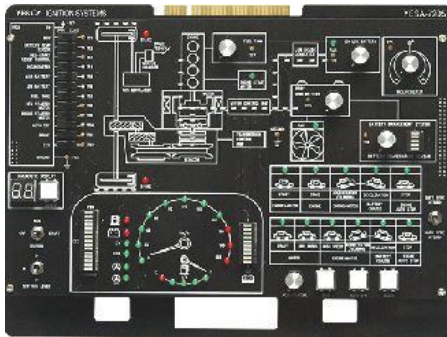
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- Part 1.Instrument panel
- Part 1-1. Tachometer
- Part 1-2. Speedometer
- Part 1-3. Audible Warning Speaker

- Part 2.Levels
- Part 2-1. Oil Pressure Unit
- Part 2-2. Brake Oil
- Part 2-3. Fuel Gauge
- Part 2-4. Engine temperature
- Part 2-5. Battery
- Part 3.Lighting
- Part 3-1. Taillights
- Part 3-2. Headlight
- Part 3-3. Brake lamp
- Part 4.Passenger Safety
- Part 4-1. Door Opening Detection
- Part 4-2. Seat Belt
- Part 4-3. Airbag
- Part 5.Trip Computer
- Part 5-1. Average Speed
- Part 5-2. Average Fuel Consumption

■ 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

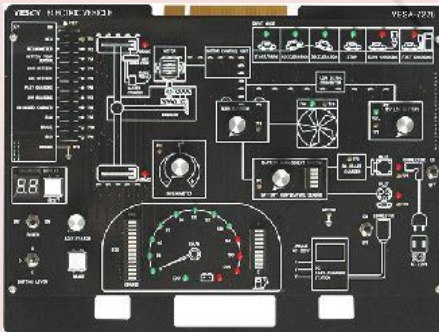
Table of Contents

- Part 1.High Voltage Battery Control System
- Part 2.Low voltage DC-DC converter (LDC)
- Part 3.Motor Control Unit (MCU)
- Part 4.Auto-Stop
- Part 5.Hill-Start Assist Control (HAC)
- Part 6.ECO MODE
- Part 7.Starting a Hybrid electric vehicle
- Part 8.Soft Type Hybrid Drive Mode
- Part 9.Hard Type Hybrid Drive Mode
- Part 10.Regenerative Brake System

*** Including**

- Practice theory manual
- CAI Software

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 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

Table of Contents

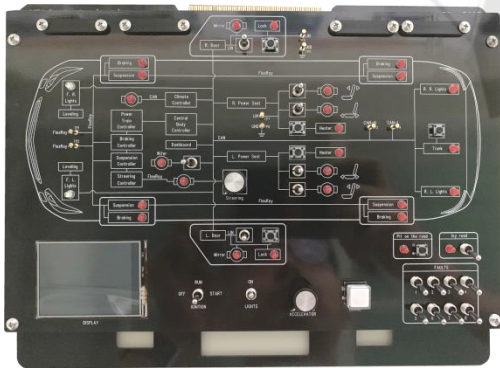
- Part 1.Battery Management system (BMS)
- Part 2.Low-voltage DC-DC converter control (LDX)
- Part 3.Motor Control Unit (MCU)
- Part 4.Electric Vehicle Charging System
- Part 5.ECO MODE
- Part 6.Hill-Start Assist Control
- Part 7.Electric Vehicle Driving Mode

*** Including**

- Practice theory manual
- CAI Software

■ Available Training Module for AUTOMOTIVE ELECTRONIC CIRCUIT

CAN BUS and LIN BUS
MODEL NAME : YESA-7207



[Topic covered included]

1. Automobile's CAN BUS
2. Automobile's LIN BUS
3. Rationale for using bus systems in motor vehicles
4. Trouble shooting

*** Including**

- Practice theory manual
- CAI Software

Part 1.Outline of a vehicle communication

Part 1-1. CAN

Part 1-2. FlexRay

Part 1-3. LIN

Part 2.CAN Communication

Part 2-1.Central Body Controller(CBC)

Part 2-2. Headlight Control

Part 2-3. Wiper Control

Part 2-4. Vehicle driving and Auto door lock

Part 2-5. The error and diagnosis of the CAN-H signal

Part 2-6. The error and diagnosis of the CAN-L signal

Part 3.FlexRay communication

Part 3-1.The Control of the Suspension

Part 3-2. The brake control using the FlexRay

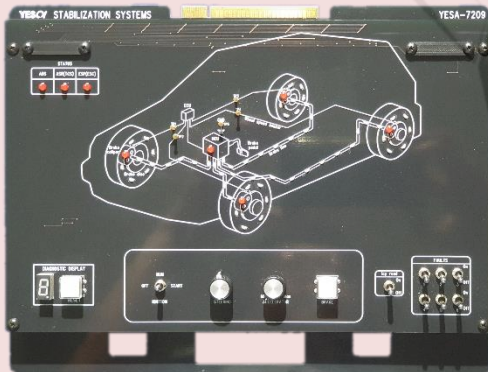
Part 3-3. The signal error and diagnosis of the FlexRay

Part 4.LIN communication

Part 4-1.The side mirrors and the door open control

Part 4-2. The control of the power seat

Stabilization Systems ABS ASR ESP
MODEL NAME : YESA-7209



[Topic covered included]

1. Process control and instrumentation
2. Driving safety in motor vehicles
3. Basic physics of driving
4. Investigation of components
5. Anti-lock braking systems (ABS)
6. Understanding a system overview
7. Requirements for anti-lock braking systems (ABS)
8. Investigation of how an ABS control system operates
9. Function of a typical ABS braking system
10. How brake boosters and hydraulic brakes work
11. Detecting the effects of typical faults in an ABS braking system

12. Traction control systems (ASR)

13. Identifying and describing functions

14. Objectives and structure of ASR

15. Investigation of typical control situations

16. Electronic stability control (ESC)

17. Requirements for electronic stability control

18. Objectives and function

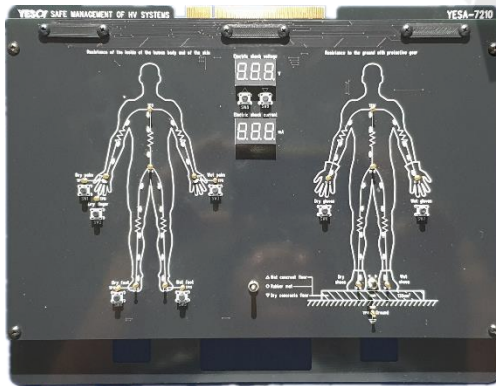
19. Response to various driving manoeuvres

20. Investigation of overall control system and control variables

21. Fault simulation

Available Training Module for AUTOMOTIVE ELECTRONIC CIRCUIT

Automobile Safe Management of High Voltage Systems MODEL NAME : YESA-7210



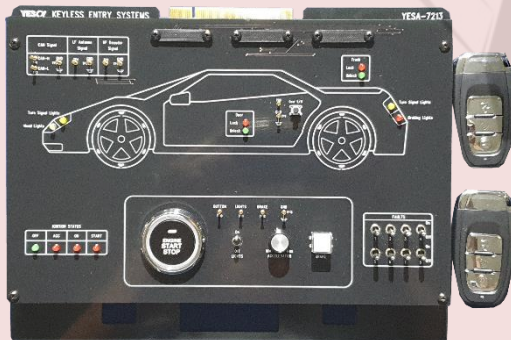
[Topic covered included]

1. Electronic circuit for demonstrating the intrinsic resistance of a human being
2. Gloves for electrical safety
3. Insulating mat
4. Absolute earth potential
5. Measuring sockets for measuring resistance between hands
6. Measuring sockets for measuring resistance between hands and one foot
7. Measuring sockets for measuring resistance between hands and both feet
8. Measuring sockets for measuring resistance between hands and chest
9. Measuring sockets for measuring resistance between chest and one foot
10. Measuring sockets for measuring resistance between chest and both feet

* Including

- Practice theory manual
- CAI Software

Comfort systems and Keyless Entry MODEL NAME : YESA-7213



[Topic covered included]

1. Comfort settings in the motor vehicle
2. Active safety
3. Door-locking system
4. Central locking
5. Remote radio control
6. Keyless access to vehicle

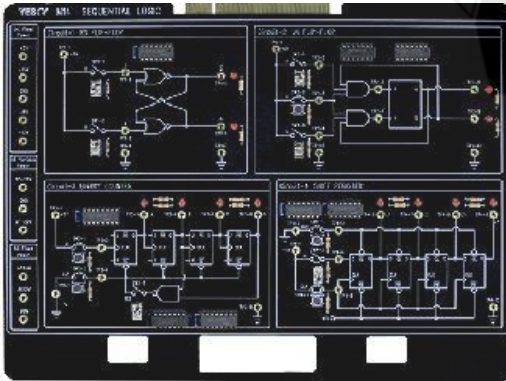
7. Capacitive pushbutton
8. Basics of antenna technology
9. How central locking works with CAN bus and expansion to keyless system

* Including

- Practice theory manual
- CAI Software

■ Available Training Module for Telecommunication Training Module

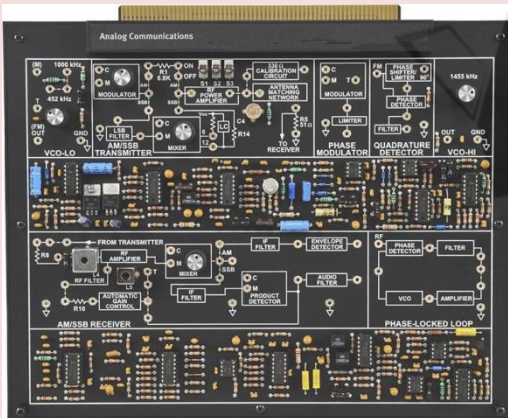
ANALOG COMMUNICATIONS 1 (AM)
MODEL NAME : YESA-7601



[Topic covered included]

- Introduction to amplitude modulation
- Recording of a modulation trapezium for varying degrees of modulation
- Demodulation of a signals diode detector
- Single sideband (SSB) and double sideband (DSB) modulation
- Signal recovery using an integrated dual push-pull (SSB) mixer
- Introduction to frequency modulation and demodulation
- Momentary frequency, frequency deviation and modulation
- Effect of AF amplitude and frequency
- Recovery of modulated signal with a phase demodulator

ANALOG COMMUNICATIONS 2 (FM / PM)
MODEL NAME : YESA-7602

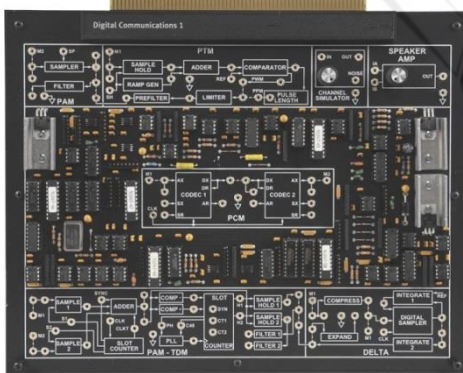


[Topic covered included]

- Frequency Modulation and Demodulation
- Phase Modulation and Demodulation
- Variety of FM detector
- PLL Circuit and Operation, FM Detection with a PLL
- Momentary frequency, frequency deviation and modulation
- Troubleshooting Basics

Available Training Module for Telecommunication Training Module

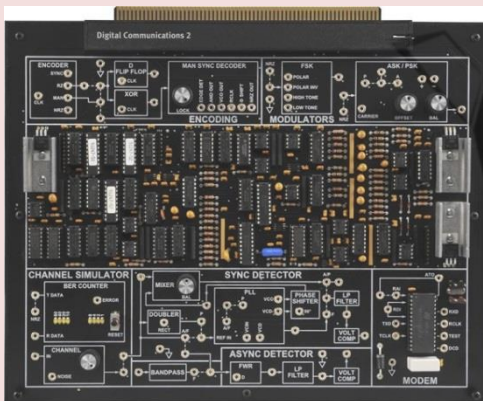
**Digital Communications 1
(PAM / PCM / TDM / DM)
MODEL NAME : YESA-7603**



[Topic covered included]

- Concepts of Digital Communications, Circuit Board Familiarization
- PAM Signal Generation, Demodulation pcm, TDM Transmission and Reception
- PCM Signal Generation and Demodulation
- DM Transmitter, Receiver and Noise
- Channel Bandwidth and Noise
- Troubleshooting Basics

**Digital Communications 2
(PTM / PWM / PPM)
MODEL NAME : YESA-7604**

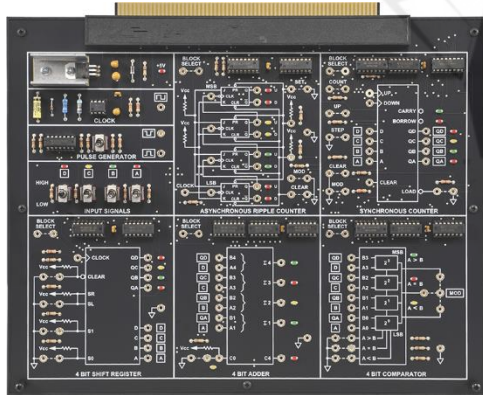


[Topic covered included]

- Concepts of Digital Communications, Circuit Board Familiarization
- PWM Signal Generation, Demodulation pcm, PPM Transmission and Reception
- PTM Signal Generation and Demodulation, Signal Time-Division Multiplexing
- Channel Bandwidth and Noise
- Troubleshooting Basics

Available Training Module for Telecommunication Training Module

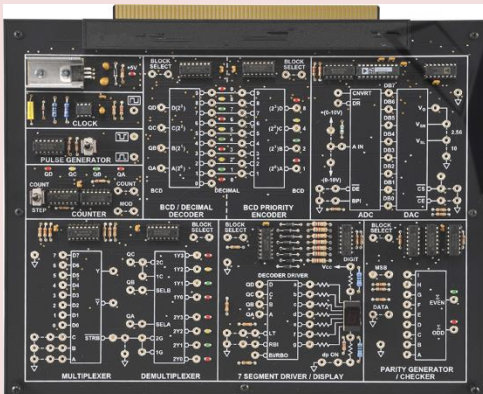
**Digital Communications 3
(ASK / FSK)
MODEL NAME : YESA-7605**



[Topic covered included]

- Circuit Board Familiarization and Introduction to Digital Transmission
- Encoding and Decoding
- ASK Signal Generation and Asynchronous Detection
- FSK Signal Generation, Asynchronous Detection, Synchronous Detection
- Effects of Noise on ASK Signals
- Effects of Noise on Asynchronously and Synchronously Detected FSK Signals
- Operation of an FSK Modem
- Troubleshooting Basics

**Digital Communications 4
(QPSK / OQPSK / DPSK)
MODEL NAME : YESA-7606**



[Topic covered included]

- Circuit Board Familiarization and Introduction to Digital Transmission
- Encoding and Decoding
- PSK Signal Generation and Synchronous Detection
- Effects of Noise on PSK Signals
- Operation of an DPSK Modem
- Troubleshooting Basics

■ Available Training Module for Telecommunication Training Module

Optical Fiber
MODEL NAME : YESA-7607



[Topic covered included]

- 1) Wave length : 660nm RED / 850nm Infrared
- 2) Optical line: 2 lines each for transmission and reception
- 3) Optical cable : 1M, 3M, Terminated square plug, attenuation by length is possible.
- 4) Fiber optics Transmitter : Switched Analog & Digital, Buffer & Amp. included.
- 5) Fiber optics Receiver : PIN Diode detector, Amplifier included.
- 6) Maximum frequency of transmitter & Receiver circuit : 100kHz
- 7) RS232C interface : Using TTL signal for RS232C Bi-direction Communication
- 8) USB to RS232C Converter include (Switched select)
- 9) Low pass filter : 3.4kHz Frequency limit, (Butterworth Filter)
- 10) AC Amplifier : Variable voltage gain.
- 11) Comparator : Variable reference level.
- 12) Audio input & output circuit include (Variable gain), Speaker included.
- 13) FM Modulator & Demodulator(PLL) included.
- 14) PWM Modulator & Demodulator, Carrier signal generator included.
- 15) Coupler include for the coupling loss.
- 16) Switched faults : 8
- 17) Test points : 40 more.
- 18) Receives Sine wave and Square wave signal from Main Console.
- 19) Powered from the Main Console (required components)
- 20) Accessories: 1M, 2M each of 3M optical cable, 1 audio input cable

YES01 work for customer's happy life

Thank you for your attention

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