

Advanced Universal Lab Trainer



AULT-2000

EDU-LABS

BUATAN MALAYSIA
MADE IN MALAYSIA



The upgraded AULT-2000 Advanced Analog & Digital Lab Trainer is a self-contained development tool for all types of analog and digital electronic circuits, combination of Analog & Digital Lab Trainer ADT-7000, Universal Lab Modules ULM-8000, Digital Multimeter, Analog Multimeter and test lead sets.

SPECIFICATION

Analog & Digital Lab Trainer ADT-7000

1. DC Power Supplies Module

Fixed Output: +5V/0.5A, -5V/0.5A, +12V/0.5A, -12V/0.5A
Variable Output: +0V ~ +23V/0.5A, -0V ~ -23V/0.5A

2. AC Power Supplies Module

19V-15V-9V-0V-9V-15V-19V

3. Function Generator Module

Sine, Triangle and Square waveform output
Frequency range: 1Hz to 1MHz in 6 decades
With fine adjust, Amplitude and DC offset control
TTL Mode: 1Hz to 1MHz in 6 decades
Six frequency ranges:
1Hz to 10Hz
10Hz to 100Hz
100Hz to 1KHz

1KHz to 10KHz
 10KHz to 100KHz
 100KHz to 500KHz
 Sine wave output: 0 to 12V peak to peak variable
 Triangle wave output: 0 to 8V peak to peak variable
 Square wave output: 0 to 22V peak to peak variable

4. Removable Solderless Breadboard Module

Interconnected nickel plated with a total of 2200 tie points nickel plated contact, fitted all DIP sizes and all components with lead and solid wire in diameter of AWG #22-30 (0.3-0.8mm)

5. Two Logic Output Switches Module

Provide two sets of logical output X/\bar{X} & Y/\bar{Y}

6. Two Pulse Switches Module

Provide two sets of pulse output A/\bar{A} & B/\bar{B}

2 units push button switch contain switches debouncer for eliminating the bounce caused by switch from "open" to "close" or from "close" to "open" position.

7. 16-Bits LED Indicators with buffer Module

Sixteen LED's separate input terminals in three colors (RED, Yellow & Green). The LED will be lighted up when input is at "HI Level", and it will be turned off when it is at no input or at "LO Level".

8. 16-Bits HI/LO Data Output Switches Module

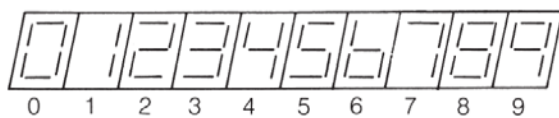
16 units slide switches and corresponding output terminals. When switch is set at "down" position, the output is LO level; contrarily, it is to be HI level when setting at "up" position.

9. TTL/CMOS Selection Switch

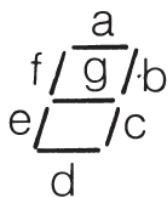
Select TTL or CMOS Mode for data switches

10. Two digits 7-segment LED Display Module

Numerical designs and resultant display



Segment Identification



Truth Table

Decimal or Function	Inputs				Outputs						
	D	C	B	A	a	b	c	d	e	f	g
0	L	L	L	L	H	H	H	H	H	H	L
1	L	L	L	H	L	H	H	L	L	L	L
2	L	L	H	L	H	H	L	H	H	L	H
3	L	L	H	H	H	H	H	H	L	L	H
4	L	H	L	L	L	H	H	L	L	H	H
5	L	H	L	H	H	L	H	H	L	H	H
6	L	H	H	L	L	L	H	H	H	H	H
7	L	H	H	H	H	H	H	L	L	L	L
8	H	L	L	L	H	H	H	H	H	H	H
9	H	L	L	H	H	H	H	L	L	H	H
10	H	L	H	L	L	L	L	L	L	L	L
11	H	L	H	H	L	L	L	L	L	L	L
12	H	H	L	L	L	L	L	L	L	L	L
13	H	H	L	H	L	L	L	L	L	L	L
14	H	H	H	L	L	L	L	L	L	L	L
15	H	H	H	H	L	L	L	L	L	L	L

11. Speaker Module

80Ω, 0.25W with Audio Amplifier

12. Potentiometer Module

With 1K, 100K and 500K Ω Potentiometers

13. Adaptors Module

2 Channels 4mm Binding Post to Turn Pin Adaptor

2 Channels BNC To Turn Pin Adaptor

Universal Lab Modules ULM-8000

1. Dot Matrix Display Module

5 x 7 Dot Matrix Display

2. LCD Display Module

LCD panel (2 x 16 characters)

3. Frequency Counter Module

Counter range: 1Hz – 50MHz auto-ranging (Maximum 50MHz)

Accuracy: 5% for input frequency less than 1KHz

2% for input frequency greater than 1KHz

8 digits 7-segment LED display

4. Programmable Capacitors Module (Decade Capacitors Module)

1nF to 40nF (8 Programmable Decade)

0.1μF to 4μF (8 Programmable Decade)

5. Programmable Resistors Module (Decade Resistors Module)

10Ω to 400Ω (8 Programmable Decade)

1KΩ to 40KΩ (8 Programmable Decade)

6. Programmable Inductors Module (Decade Inductors Module)

1μH to 40μH (8 Programmable Decade)

100μH to 4mH (8 Programmable Decade)

7. Computer Interface Module

RS-232 Serial Interface

Centronics / Parallel Interface

USB Interface

BNC Connector

8. Potentiometer Module

With 1K, 10K, 100K and 1M Ω Potentiometers

9. Switches

2 Positions Slide Switch

3 Positions Slide Switch

10. Adaptors Module

5 Channels 4mm Binding Post to Turn Pin Adaptor

10 Channels 2mm Test Pin to Turn Pin Adaptor

External Modules

1. **Analog Multimeter**

DC Voltage (range): 0.1V/0.5V/2.5V/10V/50V/250V/1000V
AC Voltage (range): 10V/50V/250V/1000V
DC mA Current (range): 50 μ A/2.5mA/25mA/0.25A
Resistance (range): 20 Ω /200 Ω /2K Ω /20K Ω /200K Ω
Low Frequency dB Test: ACV 10V/50V/250V/1000V
Leakage Current: 150 μ A/1.5mA/15mA/150mA
hFE Tester: 0~1000

2. **3 ½ Digit Digital LCD Display Multimeter**

DC Voltage (range): 200mV/2000V/20V/200V/1000V
DC Current (range): 200 μ A/2000 μ A/20mA/200mA/10A
AC Voltage (range): 200V/750V rms
Resistance (range): 200 Ω /2000 Ω /20K Ω /200K Ω /2000K Ω
Audible Continuity Test
Diode Test
Transistor Tester: hFE NPN & PNP

Test Lead Set

1. **2mm Stackable Test Leads Sets**

10 units - 5 color Coded (Red, Yellow, Blue, Black & Green)

The **AULT-2000** is shipped with a comprehensive softcopy user's manual and a power cord.
Dimensions (W x D x Hmm): ADT-7000 (360 x 300 x 110), ULM-8000 (310 x 270 x 50),
Weight(Kg) : ADT-7000 (3.5), ULM-8000 (1.65)
Power Supply : AC240V, 50Hz (Fuse Protected)

Note: Due to products continuous development process, layout and specification may change without prior notices.