Analog-Digital Circuits Development Platform

Scientech 2613A



Scientech 2613A Analog-Digital Circuits Development Platform is designed to fulfill requirement of performing experiments of analog and digital electronics in a single platform. This makes it easy to design, experiment with, and test circuitry without soldering. Students can explore a wide variety of electronic concepts simply by sticking components into the breadboard. All connections and controls are clearly marked and conveniently located. It is very useful in and digital and analog electronics laboratories for performing experiments in colleges and universities. It is also useful to build and test circuits as well as making projects related to analog electronics or when learning the subject.

Analog-Digital Lab comprises of following blocks :

- DC Power Supplies
- Sine/Square/TTL Generator
- Speaker
- Potentiometers
- Pulser Switches
- AC Power Supply
- 16 bit Data Switches
- Logic Probe
- 16 bit LED Display

Features

- Self contained and easy to operate
- Functional blocks indicated on board mimic
- On board DC and AC Power Supplies
- On board Sine/Square/TTL Generator
- On board 16 bit Data switches and 16 bit LED display
- On board Speaker, and Potentiometers
- BCD to Seven segment display and Logic probe
- Pulser Switches
- Solderless Breadboard
- Free e-learning course

Scope of Learning

Study of :

- Active Notch filter
- Zener Diode as a Voltage Regulator
- Transistor series Voltage Regulator
- Transistor shunt Voltage Regulator
- Low Pass Filter
- High Pass Filter
- Band Pass Filter
- CE configuration of NPN transistor
- CB configuration of NPN transistor
- CC configuration of NPN transistor
- Gain Characteristics of a Noninverting Amplifier
- Voltage Follower Configuration
- Op Amp in Inverting Configuration
- Operations of Wheatstone Bridge
- CE amplifier circuit

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- Universal Gate
- Logic Gate
- Binary Adder
- 2 Bit Binary Subtracter
- Binary to Gray code conversion
- Gray code to Binary code conversion
- Binary to Excess-3 code conversion
- Characteristics of various types of Flip-Flops
- Crystal Oscillator
- 4Bit Binary Up-Down Counter
- Johnson Counter
- 4 Bit serial in parallel out Shift Register
- 8 to 3 Line Encoder
- 3 to 8 Line Decoder

Technical Specifications

Size of Breadboard	:	172.5 mm x 128.5mm
Tie Points on Breadboard	:	1685 nos. (Solder-less)
DC Power Supplies	:	+5V, 1A (fixed) +15V, 200mA (fixed) -15V, 200mA (fixed) +15V, 1A (variable) -15V, 1A (variable)
AC Supply	:	5V-0V-5V, 10V-0V-10V can be used as 5V, 10V, 15V, 20V AC & also as center tap
Sine/Square/TTL Generator	:	10Hz to 1MHz in 4 steps (variable in between the steps)
Amplitude	:	Sine wave- 0 to15Vpp Square Wave- 0 to 10Vpp TTL- 5V (fixed)
Fixed TTL (Clock)	:	0.1Hz
Data Switches	:	16 nos. (Toggle switches)
Pulser Switch	:	2 nos.
LED Display	:	16 nos.
BCD to 7 Segment Display	:	2 nos.
Logic Probe	:	Logic level indicator H/L for TTL level (7 segment display)
Potentiometers	:	2 nos (1KΩ & 1MΩ)
Speaker	:	8Ω/2W
Power Supply	:	110/220V ±10%, 50/60Hz
Power Consumption	:	8VA
Weight	:	4 kgs approximately
Dimensions (mm)	:	W 326 x H 52 x D 252
Product Tutorial	:	Online (on www.ScientechLearning.com)
Included Accessories :		
Breadboards (Solder-less)	:	2 nos.
Connecting wires	:	20 nos.
2mm to 1mm Patch cords	:	16 nos.
2mm to 2mm Patch cords	:	16 nos.
Mains cords	:	1 no.

Experimental board Optional Accessories :

Ready to use Analog and Digital Experiment Boards (covering device characteristics and study of various analog and digital circuits) with wired components and schematic drawn on top, compatible to use with Analog-Digital Circuits Development Platform Scientech 2613A.

Subject to Change

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