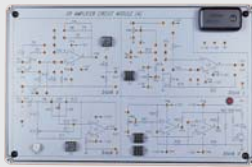




ANALOG CIRCUIT LAB

17 EXPERIMENT MODULES.

Designed with a 215 x 165 x 30mm solid body plastic housing, with electrical wiring printed on the front panel. An 8-bit DIP switch, located on the right top corner allows the user to simulate faults. Each analogue module is delivered with 2 experiment manuals.



MAIN UNIT



ref. PSY2101

MAIN UNIT PSY2101 WITH :

- **4 fixed DC supplies** with output overload protection +5V -5V +12V -12V / 300mA on each output.
- **Dual DC power supply** with output overload protection $\pm 3V$, $\pm 18V$ / 1A continuously adjustable.
- **2 AC power supplies** with output overload protection 0-9VAC / 500mA
- **Signal generator**
Sine, square and triangle 10Hz to 100kHz.
- 4 ranges 100Hz - 1 - 10 - 100 kHz
- Output impedance: 50 Ω
- Output voltage : 9Vpp (with 50 Ω load), 18Vpp (open loop).
- **3 1/2 digit digital voltmeter/ammeter**
Range: 2V - 200V - accuracy 0.3%
Range 200 μ A - 2A - accuracy 0.5%
- **Analogue voltmeter/ammeter**
0 to 20V DC - 0 to 100mA DC - 0 to 1A DC
0 to 15 V AC - 0 to 100mA AC - 0 to 1A AC
- **Speaker 8 Ω , 0.25W** with driver circuit.
- **0.25W potentiometers** : 1k Ω , 10k Ω , 100k Ω , 1M Ω .
- **Breadboard**: 1680 tie-point breadboard which can be easily put into and taken off (permutable with the modules).

Dimensions : 400 x 300 x 130 mm. Weight : 5.8kg

ACCESSORIES SUPPLIED

Jumpers, leads.

1680 tie-point breadboard which can be easily put into and taken off (permutable with the modules).



17 EXPERIMENT MODULES

Silicium, Germanium, Zener, Photodiode and LED diode characteristics experiments.
Clipping and clamping circuits

ref. ANALOG1

Half wave and full wave rectifier circuit.
Bridge rectifier circuit. Dual power rectifier circuit.
Voltage doubler & multiplier circuit.
RC direct current charge & discharge circuit.
Differentiator, integrator.
RL charge & discharge circuit.
NPN and PNP circuit. IE IB IC measurement

ref. ANALOG2

Transistor amplification circuit: common emitter circuit, common base, common collector.
Automatic and voltage divider bias point.
Feedback collector/base. Switching.
Switching type transistor circuit. Relay control.

ref. ANALOG3

Darlington's circuit. Photoelectric control circuit.
Delay control circuit. FET measurement of IDSS, IGS, Vp.
MOSFET measurement of IDSS, Vp - FET and MOSFET amplifiers: common source, common drain.
Schemes.

Automatic and voltage divider bias point.

ref. ANALOG4

Two stage amplifier circuit, RC coupled.
Direct coupled amplification circuit.
Transformer coupled amplification circuit.
Push-pull amplification circuit with impedance adapter transformer.

ref. ANALOG5

Condenser coupling multi-stage amplification circuit.

OTL amplification circuit.

OCL amplification circuit.

IC amplification circuit.

ref. ANALOG6

Multistage amplifiers with direct coupling.
Transistor negative feedback circuit.
Serial voltage negative feedback circuit.
Parallel voltage negative feedback circuit.
Serial current negative feedback circuit.
Parallel current negative feedback circuit.

ref. ANALOG7

Direct feedback circuits. Low frequency sine wave. Oscillating circuit (RC phase-shifting and Wien bridge oscillator circuit). High frequency sine wave oscillating circuit (Hartley oscillator circuit). Astable oscillating circuit with fixed or adjustable frequency and output on transformer.

ref. ANALOG8

Sine wave oscillating circuit (Colpitts).
Crystal.
Square generator with fixed variable frequency, flip-flop, timers, divider by Z.
Bistable, Intermittent oscillating circuit.

ref. ANALOG9

Schmitt's trigger circuit.
Sawtooth wave oscillating circuit linear ramp generator. Regulated voltage/current circuit with zener diode/transistor. Regulated adjustable voltage. Current limiting.

ref. ANALOG10

Regulated voltage circuit with IC.
Constant current circuit. Amplitude modulation circuit (AM).

ref. ANALOG11

Frequency modulation circuit (FM).
Transistor differential amplification.
Characteristics of OP amplifiers: input/output impedance, bandwidth, slew rate, offset voltage measurements for direct and inverse amplifier.

ref. ANALOG12

OP amplifier circuits: inverse and non inverse amplification, voltage follower, Difference amplification, Sum amplification, clipping circuit, constant voltage and current circuit, integrator circuit.

ref. ANALOG13

OP amplifier circuits: logarithm amplification, exponential amplification circuit, peak value detection circuit, precision clipping circuit, voltage regulator circuit, sampling/hold circuits.

ref. ANALOG14

OP amplifier : instrument amplification circuit, high pass, low pass and band pass amplification circuit.

ref. ANALOG15

Tone controller circuit. RIAA amplifier circuit. Single power bias amplification circuit. Positive feedback OP amplifier: comparator, Schmitt trigger, window type comparator.

ref. ANALOG16

Operational amplifier oscillators:
Monostable and astable multivibrator: square wave generator.
Sine wave: oscillation circuit:
RC oscillator, Wien oscillator.

ref. ANALOG17