



38719 Experimentation with Characteristics of TTL and CMOS is a compact product designed to explain the fundamentals of Transistor-Transistor Logic (i.e. TTL) and Complementary Metal Oxide Semiconductor (i.e. CMOS), like Voltage Transfer Characteristics, Noise Margin and Gate Delay. Inbuilt Function Generator and DC supply is provided for ease of operation.

The Voltage Transfer Characteristic of a logic gate is a graph between gate output voltage and gate input voltage.

Noise margin is the voltage difference by which the signal exceeds the threshold voltage for Logic Low or Logic High. Gate delay is the span of time starting from the instant when the input to a logic gate becomes stable, to the time that the output of that logic gate becomes stable.

Features

1. In-built variable DC power supply
2. In-built Function generator
3. Illustration of both TTL and CMOS ICs

Object

1. To study the voltage transfer characteristics, noise margin and gate propagation delay of TTL NAND gate
2. To study the voltage transfer characteristics and gate propagation delay of TTL Schmitt trigger NAND gate
3. To study the voltage transfer characteristics, noise margin and gate propagation delay of TTL NOT gate
4. To study the voltage transfer characteristics and gate propagation delay of TTL Schmitt Trigger NOT gate
5. To study the voltage transfer characteristics, noise margin and gate propagation delay of CMOS NAND gate
6. To study the voltage transfer characteristics and gate propagation delay of CMOS Schmitt trigger NAND gate
7. To study the voltage transfer characteristics, noise margin and gate propagation delay of CMOS NOT gate
8. To study the voltage transfer characteristics and gate propagation delay of CMOS Schmitt Trigger NOT gate

Technical Specifications

DC power supply	:	+12V, +5V
Variable DC power supply	:	0 to +12V, 0 to +5V
Pulse Generator		
Frequency	:	100kHz \pm 15%
Amplitude	:	5V
Mains Power supply	:	230V AC \pm 10%, 50Hz
Dimensions (mm)	:	W 345 x L 240 x D 110

Note: Specifications are subject to change.