



MODEL	610	LOGIC PROBE (20MHz FREQUENCY DISPLAYABLE)
MODEL	610B	LOGIC PROBE WITH BEEPER TONE (20MHz FREQUENCY DISPLAYABLE)
MODEL	615	LOGIC PROBE (50MHz FREQUENCY DISPLAYABLE)
MODEL	620	LOGIC PULSER
MODEL	625	LOGIC PROBE (50MHz FREQUENCY DISPLAYABLE) & LOGIC PULSER

**LOGIC PROBE (Model 610. 610B. 615. 625)**

**INTRODUCTION**

The logic Probe is ideal for troubleshooting and analysis of logic circuits. It works as a level detector, a pulse detector, a pulse stretcher, and a pulse memory (model 610 & 610B only). It features include

- a. Circuit powered.
- b. LED indicators: Hi (red LED), Lo (green LED), and PULSES/MEMORY (yellow LED) (model 610 & 610B only.)
- c. Logic Hi; Lo; PULSER with different beeper tone (model 610B only)
- d. Switch-selectable pulse detection or pulse memory function (model 610 & 610B only). e., Switch-selectable TTL or CMOS circuits. (model 610 & 610B only).

**OPERATION**

- a. Attach red alligator clip to positive side of d.c. power supply of printed circuit board under test.
- b. Attach black alligator clip to negative side of d.c. power supply of printed circuit board under test.
- c. LED Display Pattern:

MODEL	610 & 610B			610B	615 & 625	
	LED			BEEPER	LED	
	Hi	Lo	PULSE		Hi	Lo
Logic "1"	●	○	○	High tone	●	○
Logic "0"	○	●	○	Low tone	○	●
Bad Level or Open Circuit	○	○	○		○	○
Square Wave <200KHz	●	●	*	1. Alternate and intermittently sound 2. Mixed and intermittently sound	●	●
Square Wave >200KHz	◐	◐	*		●	●
Narrow High Pulse	○	●	*	Intermittently low tone	●	●
Narrow Low Pulse	●	○	*	Intermittently high tone	●	●

● LED ON    ○ LED OFF    ◐ LED may or may not be on.

\* Blinking LED, Intensity is proportional to the duty cycle of the signal observed.

Note: If model 615 & 625 Lo LED lighted, when power supply voltage is upper 10V. This is normal condition, will not effect the logic probe features.

- d. After the PULSE/MEMORY Switch is placed in MEM position, the Pulse indicator (yellow LED) with latch on with the first transition (either rising or falling). Thereafter, as long as the probe is powered, the LED will remain on until reset by switching to PULSE position. (610 & 610B only).

## SPECIFICATIONS

### GENERAL:

Operating Temperature .....	0°C to 50°C, 80% Relative Humidity
Storage Temperature.....	-20°C to 65°C, 75% Relative Humidity
Weight.....	610 & 610B 1.6 Ounces (45g) approx. 615 1.2 Ounces (35g) approx. 620 1.4 Ounces (40g) approx. 625 1.76 Ounces (50g) approx.
Dimensions .....	8.2 Inches (21cm) Long X. 0.7 Inches (1.8cm) Wide X. 0.7 Inches (1.8cm) Deep.

### ELECTRICAL (At 23±5°C, 75% Relative Humidity Maximum):

Model	610 & 610B	615 & 625
Maximum Input Signal Frequency .....	20MHz	50MHz
Input Impedance .....	1MΩ	120KΩ
Operating Supply Range.....	4V DC Minimum, 18V DC Maximum	
TTL: Logic "1" (Hi LED).....	>2.3±0.2V DC	>3.0±0.25V
Logic "0" (Lo LED).....	<0.8±0.2V DC	<0.75±0.25V
CMOS: Logic "1" (Hi LED).....	>70% Vcc±10%	>60% Vcc±5%
Logic "0" (Lo LED).....	<30% Vcc±10%	<15% Vcc±5%
Minimum Detectable Pulse Width.....	30 Nanoseconds	10 Nanoseconds
Maximum Signal input Protection.....	±220V AC/DC (for 15 seconds)	±70V AC/DC (for 15 seconds)
Power Supply Protection.....	±20V DC	±20V DC
Pulse Indicator Flash Time.....	500ms	

### LOGIC PULSER (Model 620 & 625)

#### INTRODUCTION

The Logic Pulser is a very effective tool for inspecting and repairing the logic circuits. It can be used directly to inject a signal into the logic circuits without removing the IC or breaking the circuits. The 100mA pulse output insures that the device under test will be pulsed, while the short 10μS duration of the output pulse makes sure that no damage will be done to the circuit under test. The logic Pulser output is changeable between 0.5 and 400Hz, making it suitable for use with either a logic probe or with an oscilloscope, also has an external sync input, which enables the user to synchronize the pulse output with an external signal, such as a computer clock circuit.

#### OPERATION

- Attach red alligator clip to positive side of d.c. power supply of printed circuit board under test.
- Attach black alligator clip to negative side of d.c. power supply of printed circuit board under test.
- Setting the repetition rate switch to 0.5pps or 400pps.

#### SPECIFICATIONS

Sync Input Impedance .....	1MΩ
Pulse Rate.....	0.5/400Hz
Pulse Width.....	10μS
Output Current.....	100mA sink/source
Square Wave Output Current .....	5mA sink/source
Power Supply Range.....	5 – 15V DC
Power Supply Protection.....	20V DC (30 seconds max.)
Sync Input Protection.....	120V DC (30 seconds max.)
Test Point Protection .....	35V DC (30 seconds max.)

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