

LAB 1. LOGIC GATES

Objective

- To get acquainted with different standard integrated circuits.
- To study the basic logic gates: AND, OR, INVERT, NAND, NOR, and XOR.
- To understand formulation of Boolean function and truth table for logic circuits
- Design a sample function on bread board.

The Breadboard

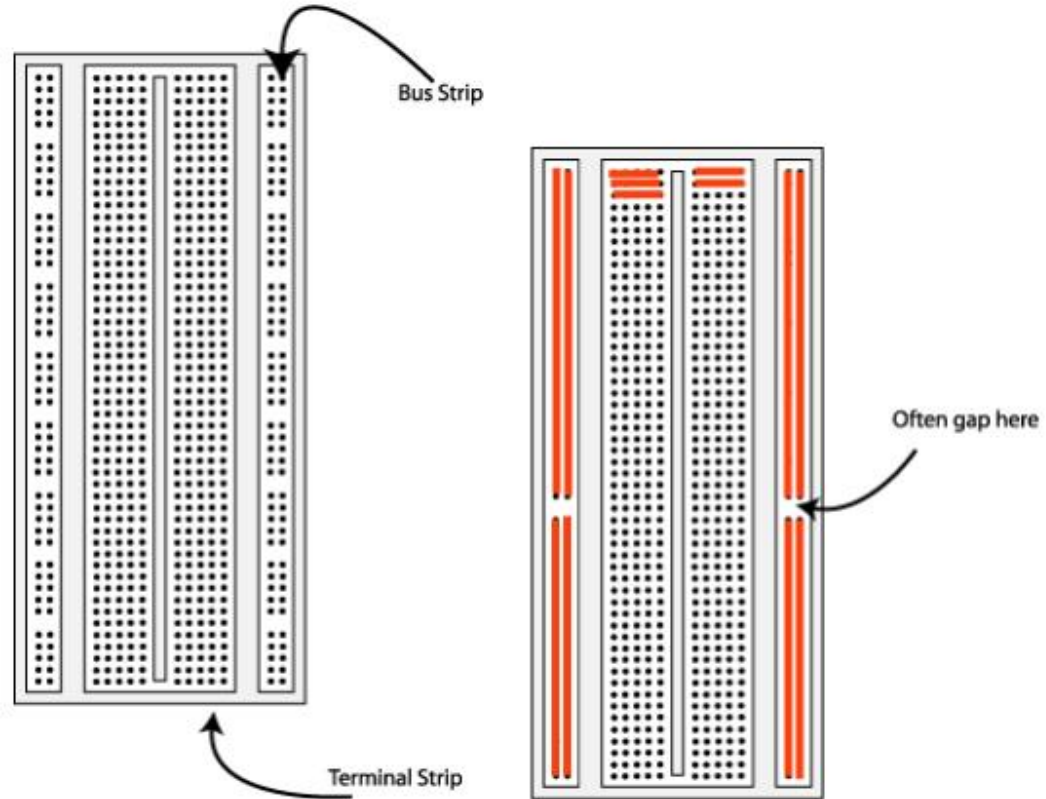
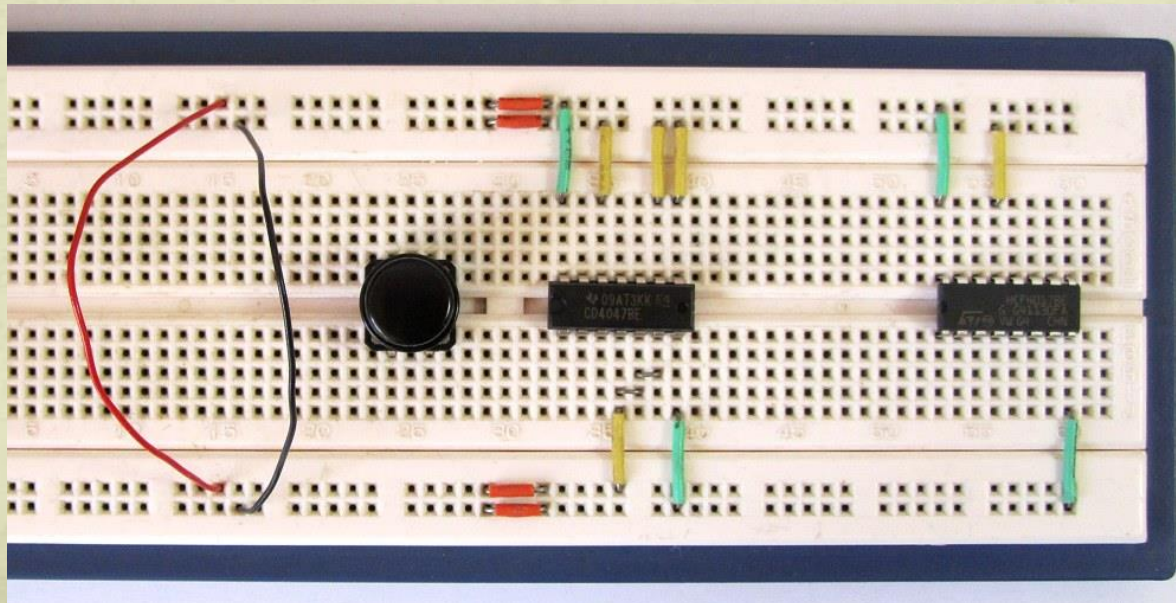
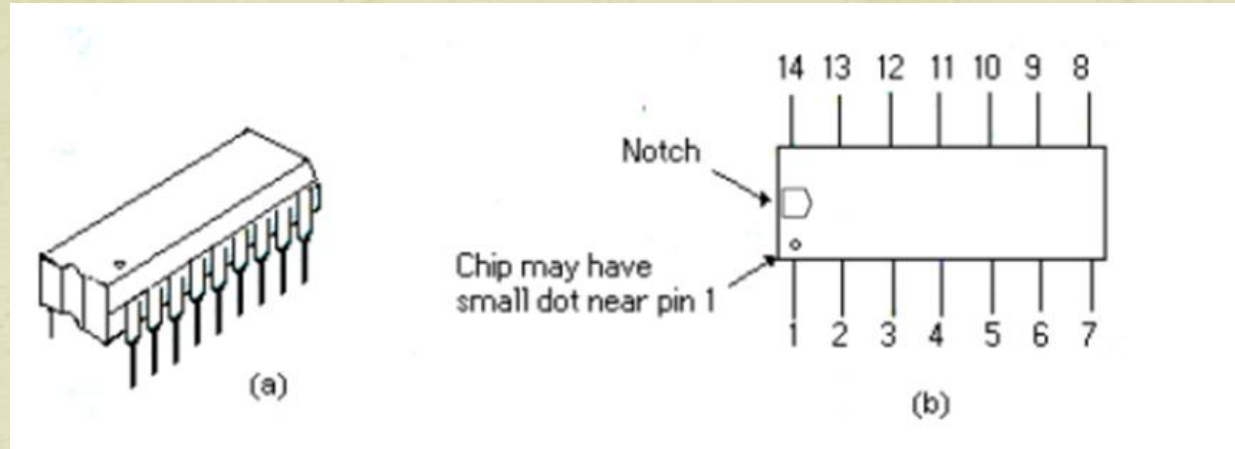


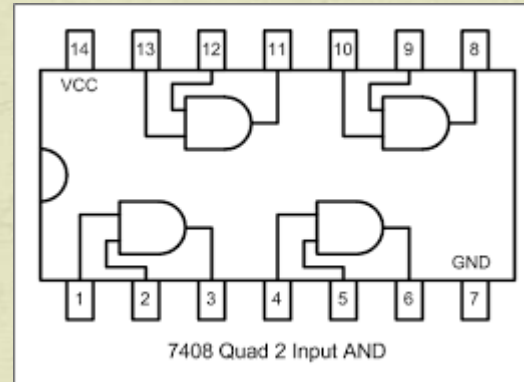
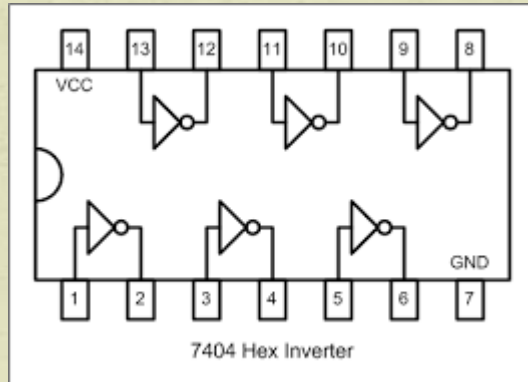
Fig. 1.1: The breadboard. The shaded lines indicate connected holes

(a) Dual-In-Line Package (b) Top view showing Pin numbers



Example Implementation of a Logic Circuit

- Build a circuit to implement the Boolean function $F = \bar{A} \bar{B}$ using 74LS08 (AND gate) and 7404 (INVERTER)



Quad 2 Input 7400

Hex 7404 Inverter

