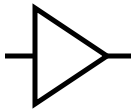
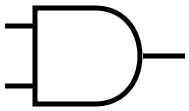
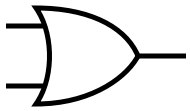
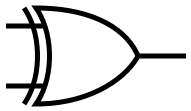
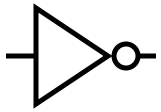
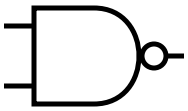
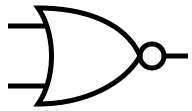
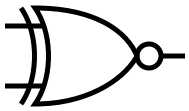
Basic logic gates

Buffer	AND	OR	XOR	Inverter	NAND	NOR	XNOR
							
A	AB	$A+B$	$A \oplus B$	$\overline{A}$	$\overline{AB}$	$\overline{A+B}$	$\overline{A \oplus B}$
A Y 0 0 **1 1**	A B Y 0 0 0 0 1 0 1 0 0 **1 1 1**	A B Y 0 0 0 **0 1 1** **1 0 1** **1 1 1**	A B Y 0 0 0 **0 1 1** **1 0 1** 1 1 0	A Y **0 1** 1 0	A B Y **0 0 1** **0 1 1** **1 0 1** 1 1 0	A B Y **0 0 1** 0 1 0 1 0 0 1 1 0	A B Y **0 0 1** 0 1 0 1 0 0 **1 1 1**
`A`	`A&&B`	`A||B`	`A!=B`	`!A`	`!(A&&B)`	`!(A||B)`	`A==B`
7407	7408	7432	7486	7404	7400	7402	various

Key representations

Boolean equation

$$\overline{AB} + C$$

Truth table

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1

Logic diagram