



Materi Pembelajaran

Matakuliah :

**DESAIN DAN SIMULASI RANGKAIAN
ELEKTRONIKA**

Kode Matakuliah : SKO 21425

Prodi : SISTEM KOMPUTER

Dosen Pengampu Matakuliah:

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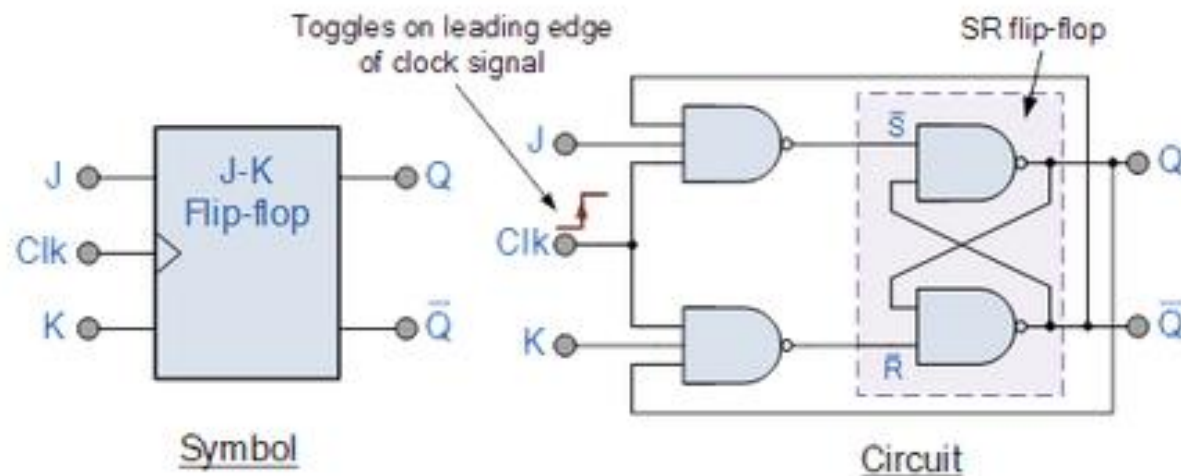


Chapter 9

Flip Flop (JK Flip Flop)

Flip-flop is an electronic circuit that has two stable states and can be used to store information.

The Basic JK Flip-flop



Chapter 9

Flip Flop (JK Flip Flop)

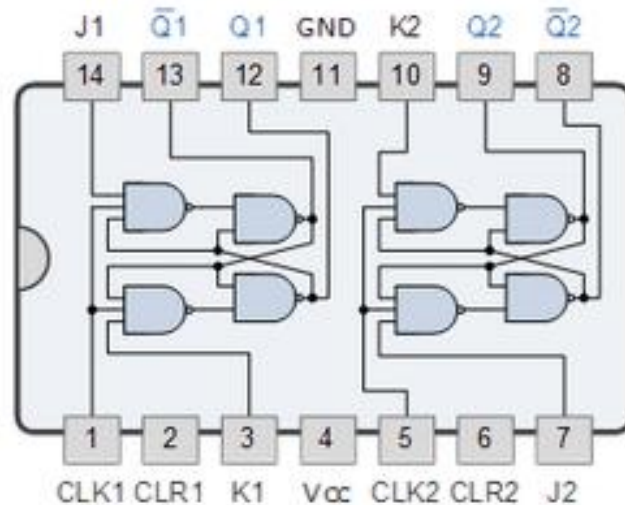
The Truth Table for the JK Function

	Clock	Input		Output		Description
	Clk	J	K	Q	\bar{Q}	
same as for the SR Latch	X	0	0	1	0	Memory no change
	X	0	0	0	1	
	\downarrow	0	1	1	0	Reset Q \rightarrow 0
	X	0	1	0	1	
	\downarrow	1	0	0	1	Set Q \rightarrow 1
	X	1	0	1	0	
toggle action	\downarrow	1	1	0	1	Toggle
	\downarrow	1	1	1	0	

Chapter 9

Flip Flop (JK Flip Flop)

Dual JK Flip-flop 74LS73



The TTL 74LS73 is a Dual JK flip-flop IC, which contains two individual JK type bistable's within a single chip enabling single or master-slave toggle flip-flops to be made.

Flip Flop (JK Flip Flop)

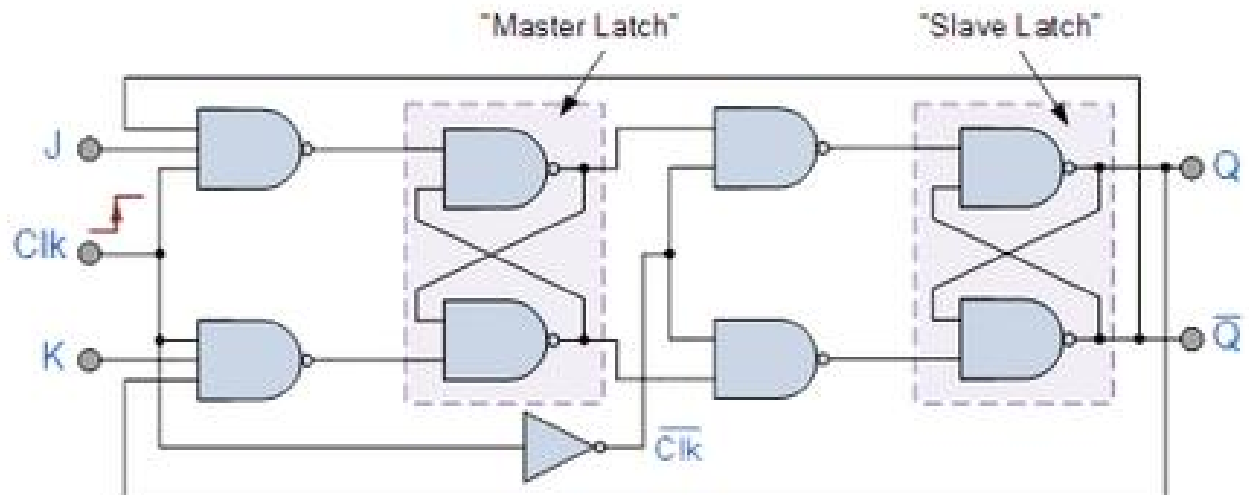
Other Popular JK Flip-flop ICs

Device Number	Subfamily	Device Description
74LS73	LS TTL	Dual JK-type Flip Flops with Clear
74LS76	LS TTL	Dual JK-type Flip Flops with Preset and Clear
74LS107	LS TTL	Dual JK-type Flip Flops with Clear
4027B	Standard CMOS	Dual JK-type Flip Flop

The Master-Slave JK Flip-flop

The **Master-Slave Flip-Flop** is basically two gated SR flip-flops connected together in a series configuration with the slave having an inverted clock pulse.

The Master-Slave JK Flip Flop



Chapter 9

Tugas Mandiri (teori):

Lakukan pembuatan skema rangkaian JK Flip Flop dengan LED menggunakan software simulator

Tugas Mandiri (prakt):

Lakukan Simulasi JK Flip Flop menggunakan software simulator dan jelaskan hasil simulasinya.

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