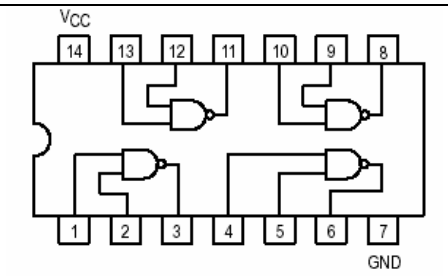
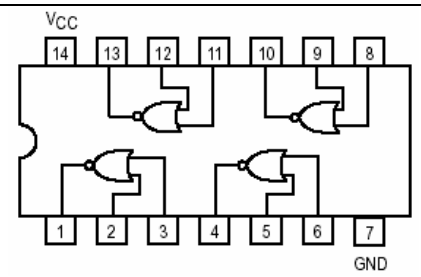
Web Site = http://faculty.valenciacc.edu/tbartoli/electronics_program.htm
File Name = **PreLabs/IC-PinOut.pdf**
Updated 9/25/03 (Corrected L74LS90)

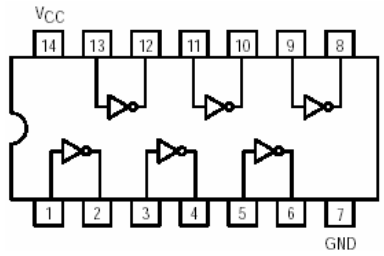
INTEGRATED CIRCUIT PIN LAYOUT



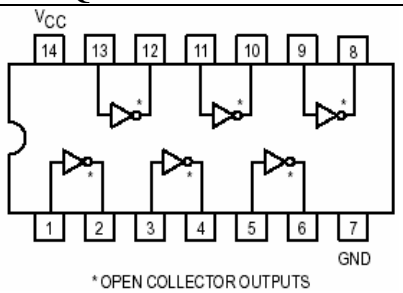
74LS00
QUAD 2-IN NAND



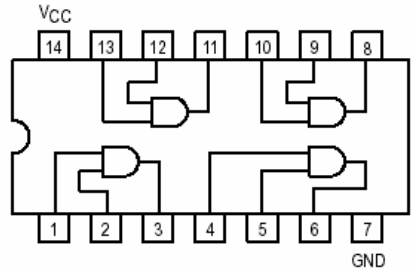
74LS02
QUAD 2-IN NOR



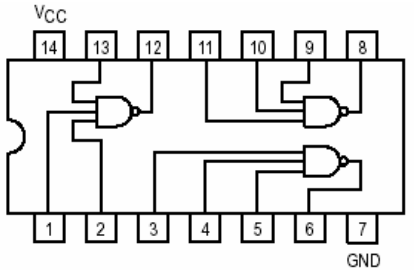
74LS04
HEX INVERTER



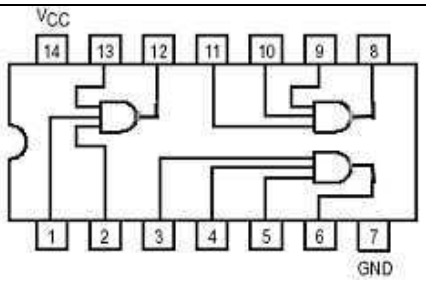
74LS05
HEX INVERTER



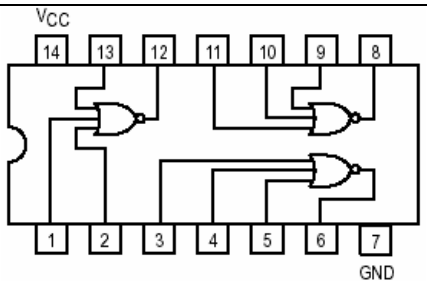
74LS08
QUAD 2-IN AND



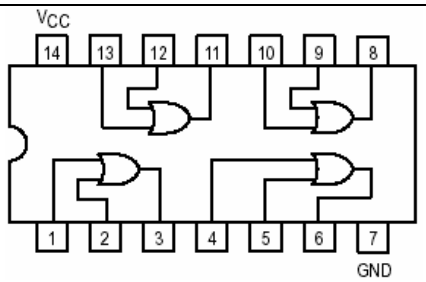
74LS10 & 7410
TRIPPLE 3-IN NAND



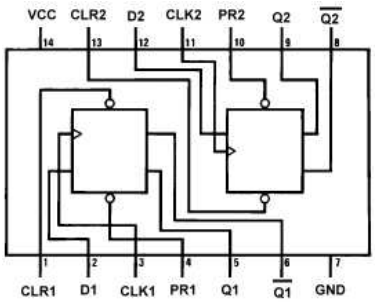
74LS11
TRIPLE 3-IN AND



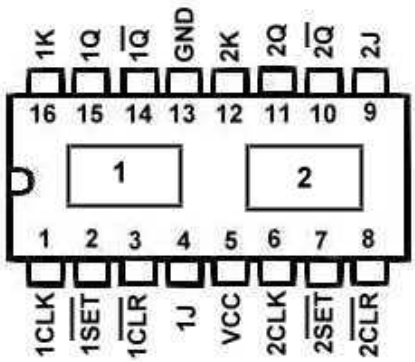
74LS27
TRIPLE 3-IN NOR



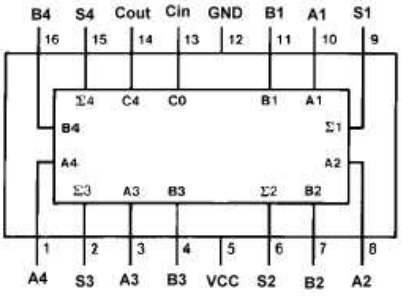
74LS32
QUAD 2-IN OR



74LS74
DUAL D-FLIP FLOP



74LS76
DUAL J-K FLIP FLOP



74LS83
4-BIT FULL ADDER

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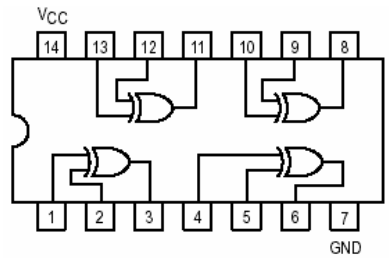
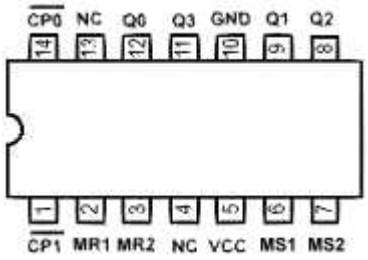
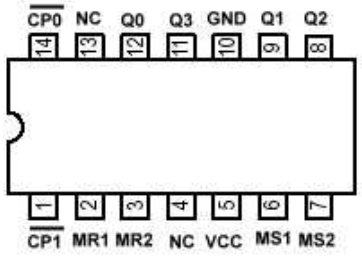


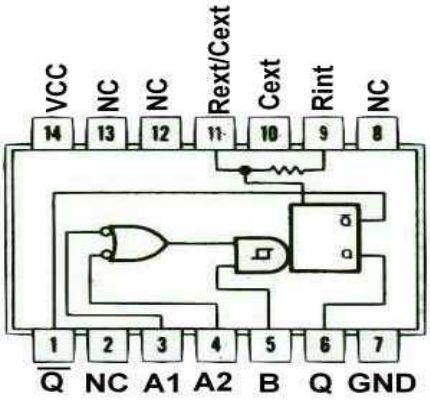
74LS86
QUAD 2-9IN EXOR



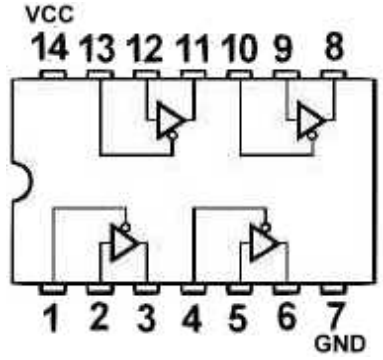
74LS90
DECADE COUNTER



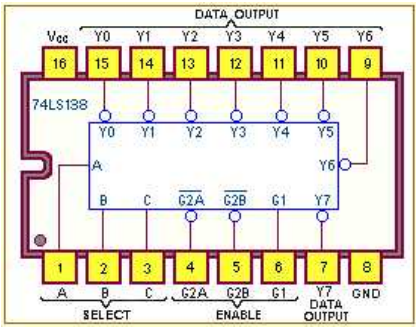
74LS93
4-BIT COUNTER



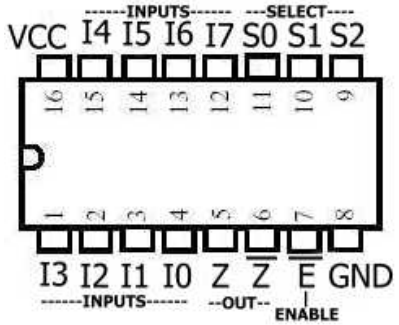
74LS121
MONOSTABLE MULTI



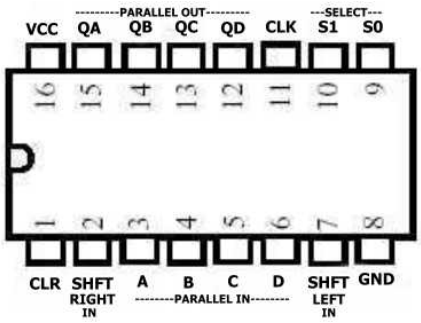
74LS125
QUAD TRISTATE BUFFER



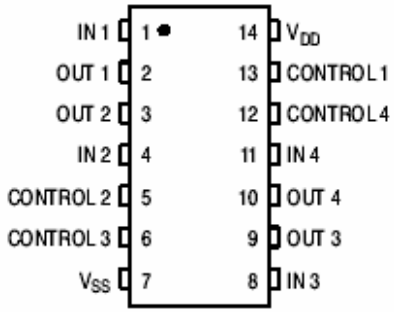
74LS138
3-to-8 DECODER/DEMUX



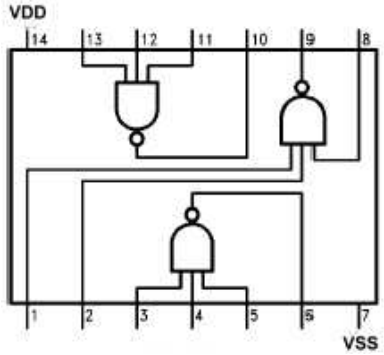
74LS151
1-of-8 SELECTOR/MUX



74LS194
4-BIT SHIFT REGISTER

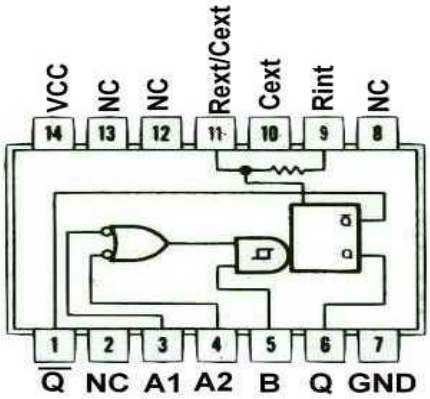


CD4016
QUAD BILATERAL SWITCH



CD4023
TRIPPLE 3-IN NAND

DETAIS OF THE 74LS121
MONOSTABLE MULTIVIBRATOR



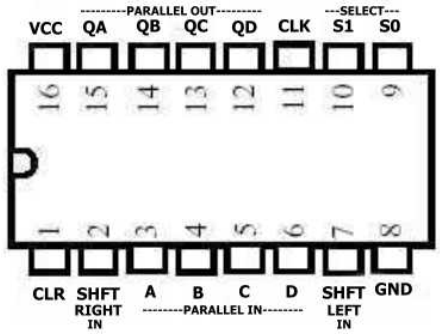
FUNCTION TABLE

INPUTS			OUTPUTS	
A1	A2	B	Q	$\bar{Q}$
L	X	H	L	H
X	L	H	L↑	H↑
X	X	L	L↑	H↑
H	H	X	L↑	H↑
H	↓	H	⎍	⎍
↓	H	H	⎍	⎍
↓	↓	H	⎍	⎍
L	X	↑	⎍	⎍
X	L	↑	⎍	⎍

Pulse Width, $t_w = 0.7 * C_{ext} * R_{ext}$

Ex: $C_{ext} = 0.001\mu f$, $R_{ext} = 1K\Omega$, will yield a Pulse Width, $t_w = 70\eta s$

DETAILS OF THE 74LS194
4-BIT SHIFT REGISTER



FUNCTION TABLE

INPUTS										OUTPUTS			
CLEAR	MODE		CLOCK	SERIAL		PARALLEL				Q_A	Q_B	Q_C	Q_D
	S1	S0		LEFT	RIGHT	A	B	C	D				
L	X	X	X	X	X	X	X	X	X	L	L	L	L
H	X	X	L	X	X	X	X	X	X	Q_{A0}	Q_{B0}	Q_{C0}	Q_{D0}
H	H	H	↑	X	X	a	b	c	d	a	b	c	d
H	L	H	↑	X	H	X	X	X	X	H	Q_{An}	Q_{Bn}	Q_{Cn}
H	L	H	↑	X	L	X	X	X	X	L	Q_{An}	Q_{Bn}	Q_{Cn}
H	H	L	↑	H	X	X	X	X	X	Q_{Bn}	Q_{Cn}	Q_{Dn}	H
H	H	L	↑	L	X	X	X	X	X	Q_{Bn}	Q_{Cn}	Q_{Dn}	L
H	L	L	X	X	X	X	X	X	X	Q_{A0}	Q_{B0}	Q_{C0}	Q_{D0}