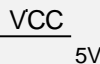# List of Commonly Components in MultiSIM

The following table lists various commonly used components that are included in the standard distribution of MultiSIM software from National Instruments. All of the following components are present in the `Master Database` in MultiSIM. Choose the corresponding `Group`, `Family`, and `Component` (in the `Select a Component` dialog box in MultiSIM) to use it in a schematic.
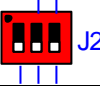
Power & Ground:

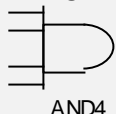| Group	Family	Component (s)	Description	Symbol
Sources	POWER_ SOURCES	VCC	Positive DC voltage to drive all logic circuits	VCC 5V
Sources	POWER_ SOURCES	GND	Generic ground	
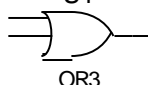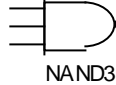
Indicators/Displays:

Group	Family	Component (s)	Description	Symbol
Indicators	LAMP	5V_1W	A simple lamp (ground one end for use with logic circuits)	X1 5V_1W
Indicators	HEX_ DISPLAY	DCD_HEX	A 7-segment decoder and hexadecimal display	U1 DCD_HEX

Switches:

Group	Family	Component (s)	Description	Symbol
Basic	Switch	DSWPK_2, DSWPK_3,…, DSWPK_10	Multiple input/output DIP switches.	J2
Basic	Switch	SPST	A simple on/off switch	J3 Key = Space

Digital Logic Devices:

Group	Family	Component (s)	Description	Symbol
Misc Digital	TIL	AND2, AND3, AND4, AND5, AND6, AND7, AND8	Generic, multiple input (inputs range from 2 to 8) AND logic gates.	U1 AND4
Misc Digital	TIL	OR2, OR3, OR4, OR5, OR6, OR7, OR8	Generic, multiple input (inputs range from 2 to 8) OR logic gates.	U1 OR3
Misc Digital	TIL	NOT	Generic NOT gate	U1 NOT
Misc Digital	TIL	NAND2, NAND3, NAND4, NAND5, NAND6, NAND7, NAND8	Generic, multiple input (inputs range from 2 to 8) NAND logic gates.	U1 NAND3

Group	Family	Component (s)	Description	Symbol
Misc Digital	TIL	NOR2, NOR3, NOR4, NOR5, NOR6, NOR7, NOR8	Generic, multiple input (inputs range from 2 to 8) NOR logic gates.	U2 NOR3
Misc Digital	TIL	EOR2, EOR3, EOR4, EOR5, EOR6, EOR7, EOR8	Generic, multiple input (inputs range from 2 to 8) XOR ($\oplus$) logic gates.	U1 EOR3
Misc Digital	TIL	MUX_2TO1, MUX_4TO1, MUX_8TO1	Generic multiplexers with n-inputs and 1 output. Use D0, D1,…,Dn for inputs, A,B,…D for selection logic and Y for output.	U2 D0 Y D1 ~W A ~G MUX_2TO1
Misc Digital	TIL	DCD_2TO4, DCD_3TO8, DCD_4TO16	Generic decoder that can be used to implement DEMUX. Use A,B,…D for selection logic and devices enables Y0, Y1, …,Yn based on selection lines.	U1 A Y0 B Y1 C Y2 Y3 Y4 Y5 Y6 Y7 ~G DCD_3TO8
Misc Digital	TIL	D_FF	A generic D-Flip Flop	U1 SET D Q CLK ~Q RESET D_FF
Misc Digital	TIL	D_LATCH	A generic D-Latch	U1 SET D Q EN ~Q RESET D_LATCH
Misc Digital	TIL	SR_FF	A generic SR (Set-Reset) Flip Flop	U1 S Q R ~Q SR_FF
Misc Digital	TIL	SR_LATCH	A generic SR (Set-Reset) Latch	U3 SET S Q EN R ~Q RESET SR_LATCH
Misc Digital	TIL	FULL_ADDER	A generic full adder	U1 A SUM B CARRY CIN FULL_ADDER
Misc Digital	TIL	HALF_ADDER	A generic half adder	U3 A SUM B CARRY HALF_ADDER
Misc Digital	TIL	QUAD_REG	Single package with 4 synchronized registers.	U2 D0 Q0 D1 Q1 D2 Q2 D3 Q3 CLK QUAD_REG