

Commonly Used IRSIM Commands

The most frequently used commands in IRSIM are those that set the values of inputs and those that are used to view signals.

h <i>node1 node2 ...</i>	set list of nodes to logic 1 (high)
l <i>node1 node2 ...</i>	set list of nodes to logic 0 (low)
u <i>node1 node2 ...</i>	set list of nodes to "X" (undefined)
x <i>node1 node2 ...</i>	stop setting (release) the list of nodes
clock <i>node 1 0 1 0</i>	stop setting (release) the list of nodes
d <i>node1 node2 ...</i>	display current value of nodes
t <i>node1 node2 ...</i>	trace any changes in nodes
w <i>node1 node2 ...</i>	watch nodes (or auto-display)
ana <i>node1 node2 ...</i>	display current value of nodes in waveform viewer
clear	clear waveform viewer display
c <i>n</i>	run clock sequence <i>n</i> times
s <i>tm</i>	run simulation for <i>tm</i> nanosecond or one step
stepsize <i>tm</i>	set step size to <i>tm</i> nanoseconds

IMPORTANT. When you set a node high or low using the h or l commands, the node *keeps being set to high or low* (no matter what the circuit is trying to do to the node!) until you use the x command to stop setting the node. The combination of h/l and x is useful for forcing an output node to a defined state for initialization purposes.

Vectors

Since nodes typically are grouped into vectors, it is usually easier to look at *N*-bit quantities as single vector entities. The following commands can be used to define vectors and display them.

vector <i>name node1 node2 ...</i>	define a new vector called <i>name</i> consisting of the list of nodes
d <i>name</i>	display a vector as an array of bits
ana <i>name</i>	add vector <i>name</i> to the waveform viewer
set <i>name value</i>	set the bits of vector <i>name</i> using the binary string <i>value</i>

To set a vector to a hexadecimal number, use:

```
set name %x<hexstring>
```

The prefix **%x** says that what follows is a hex constant. For instance: **set counter_out %xff** force the 8-bit vector counter_out to have be all '1's.

A useful shortcut to defining arrays as long vectors is:

```
vector name a.b[{31:0}]
```

Scripts

A list of commands can be stored in a text file and executed within IRSIM together. If you create a file called **do_it.cmd**, you can read it into IRSIM by:

```
source do_it.cmd
```

Some other commands for scripts are given below.

# comment	# defines the rest of the line to be a comment. Comments must be on separate lines.
assert <i>name value</i>	This checks if <i>name</i> has value <i>value</i> . If this is true, the command does nothing. Otherwise, the command prints an error message.
print <i>text</i>	Echos <i>text</i> on the output. Useful to separate the outputs of different major tests.