

# 1 NOVA Cursors

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- Cursor(s) can be created by clicking in the white space just above the bottom scroll bar. They are helpful in lining up signals.
  - Clicking the left button creates one cursor. Call it the left cursor.
  - Shift click of the left button creates another cursor. Call it the right cursor.
  - The number at the bottom of each cursor is the time step number at the position of the cursor.
  - Left click on (or near) the bottom of the left cursor allows it to be positioned (dragged).
  - Right click on (or near) the bottom of the right cursor allows it to be positioned (dragged).

## 2 NOVA Busses

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- Busses can be created by clicking Edit->Create Bus
  - A pop up window will allow you to select signals to display as the bus.
  - Busses are always positioned at the top of the display.
  - Cursor(s) display the value of a bus as a hex number.
  - Beware!
    - Busses are displays only. They cannot be used to specify inputs.
    - Instead, specify the signals which make up the bus.
    - The order of the signal list influences the hex number displayed.
- Busses can be edited by first selecting the bus and clicking Edit->Edit Bus.
- You can reposition the selected bus at the top of display by going through the motions of editing but actually make no changes.

### 3 **Specifying Signal Values.**

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- First, select the signal by clicking on the name. This selects (or unselects) the whole signal which then is blue.
- Clicking and dragging on a portion of the signal selects a portion of the signal.
  - It is sometimes helpful to use the cursor(s) to help line up the selected region.
- One can then click on Edit-> whatever to input a value.
  - It is easiest to type 1 or 0 to set the selected part of the signal to one or zero.

## 4 **Simulating and Saving the Results**

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- One can change (usually lengthen) by clicking on Options->Simulation Length.
- One can zoom in or out (by a factor of two) by clicking on the desired command under the main Views menu.
- Simulation is initiated by clicking on Simulate->Execute. One can save the results by clicking on File->Write Sim.
- Reopening a \*.jed file causes the display to be what it was when the \*.sim file was written. Well, almost, all the signals are shown in white. One has to resimulate to get the outputs shown in red.

## 5 NOVA help

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- Click on the main Help menu (at the right) to get more information about using NOVA.
- It is amusing that the help info on starting NOVA is available by clicking on the NOVA Help menu.