

## Interactive Laboratory Usage Summary:

- Add a component** Click on the component in the parts bin (the columns of part icons to the right of the diagram area) and drag it onto the diagram. Release the mouse when the component is in the correct position.
- Move a component** Click to select a component in the diagram (it will turn green) and then drag it to its new location. You can use shift-click to add a component to the current selection. Or you can click somewhere in the diagram that is not on top of a component and drag out a selection rectangle -- components intersecting the rectangle will be added to the current selection.
- Rotate a component** Click to select a component in the diagram (it will turn green) and then type the letter "r" on the keyboard. The component will be rotated 90 degrees. Additional rotations will move the component through its eight possible orientations (4 compass points and their reflections).
- Delete a component** Click to select the component in the diagram (shift-click to select multiple components) then type DEL or BACKSPACE on your keyboard.
- Change a component's properties** Double click on the component. This will bring up an Edit Properties window that has input fields for each of the component's properties. Click OK to change the values. Click CANCEL or the window's close button to abort the changes. Numeric values can be entered using engineering notation:
- | suffix multiplier |           | suffix multiplier |            |
|-------------------|-----------|-------------------|------------|
| T                 | $10^{12}$ | u                 | $10^{-6}$  |
| G                 | $10^9$    | n                 | $10^{-9}$  |
| M                 | $10^6$    | p                 | $10^{-12}$ |
| k                 | $10^3$    | f                 | $10^{-15}$ |
| m                 | $10^{-3}$ |                   |            |
- Add a wire** Wires start at connection points, the open circles that appear at the terminals of components or the ends of wires. Click on a connection point to start a wire -- a green wire will appear with one end anchored at the starting point. Drag the mouse and release the mouse button when the other end of the wire is positioned as you wish. Once a wire has been added to the diagram it can be manipulated like any other component.