

Robolab Tips and Tricks

I. Getting Started

1. Double click on the Robolab icon on the desktop
2. Select **Programmer** from the initial screen
3. Double click on **Inventor 4**



Step 2



Step 3

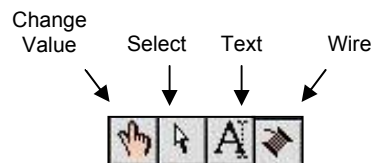
II. Main Window


1. Select "Show Panel" from the **Window** menu if the diagram window did not appear.
2. Select "Full Size" from the **Window** menu to expand the diagram window. (Shortcut: ctrl + /) *
3. Select "Show Controls Palette" from the **Window** menu to display the functions.
4. Select "Show Tools Palette" from the **Window** menu to display the tools.





Tools

III. Palettes



1. Use the tab key to cycle between the change value, select, text and wire tools.
2. Use the spacebar to toggle between the select tool and the wire tool. 
3. Right-click (Mac: command-click) anywhere on the diagram window to get a functions palette.
4. Click on the "push pin" in the upper left hand corner of the palette to place another copy of the functions palette on the screen (Useful to have the modifiers and the functions palette on the screen at once).


IV. Icons

1. Selecting icons:
 - a. Use the Select tool to select individual icons by clicking on them. 
 - b. Hold the shift key while using the Select tool to select multiple icons.
 - c. Drag a selection rectangle over a group of icons to select them as a group.
2. Cut: Ctrl + X Paste: Ctrl + V Copy: Ctrl + C Undo: Ctrl + Z
3. Ctrl + drag (PC) Option + drag (Mac) will create a duplicate of everything that is selected. (This is neat for duplicating an entire program or a section of a program)
4. Right-click (Mac: hold the command key) on an icon to replace it with a new icon from the Functions palette.
5. Use the align tools from the toolbar at the top of the window to organize your program. 
6. The keyboard arrows can be used to nudge the icons in tiny increments.
7. With the wire tools selected roll over the flashing corners of program icons to see what gets wired in that locations.



* Unless otherwise noted Mac users should follow the same shortcuts except substitute the command key for the control key.

- Use the change value tool or the text tool to change the value of a constant.


V. Wires

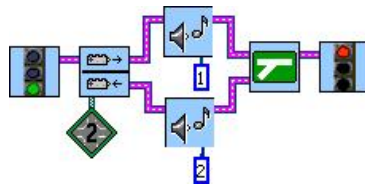
- To draw wires you need to select the wire tool. 
- Ctrl + B will remove all broken wires.
- Double click to select an entire wire.
- Right-click (Mac: hold command key) on a wire to insert an icon from the functions palette.
- Use left - mouse clicks to control how the wire bends
- Double click to end a wire.
- Right-click (Mac: command + click) to get rid of an unwanted wire (while you are drawing it).
- Use the space bar to flip the direction of the last bend in a wire before connecting it.

VI. RCX

- Downloading programs to the RCX:
 - Make sure the RCX is on.
 - Use the **Program** button to select the program slot to download to.
 - Often you can't download to program slots 1 and 2 because they are locked.
 - Click on the "arrow" (Shortcut: Ctrl + R) to download your program to the RCX. 
 - If there is a problem with your program there will be a "broken arrow" and you will not be able to download your program until the problem is fixed. (See section VII) 
- Use the **View** button to see the sensor readings.
 - You need to download a program using the sensor you wish to view in order to see the values.
- Press the **Run** button on the RCX to run the program.
 - Make sure you run the correct program number.

VII. Debugging

- Click on the "broken arrow" (Shortcut: Ctrl + L) to view the error list. 
- Double click on an error message to be taken to where the suspected error is in the program.
- Use sounds to indicate the progress of your program. (Playing sounds is useful to track which part of the program is executing at a particular time.) For example:



If the touch sensor is released sound #1 plays or else if the touch sensor is pressed sound #2 plays.

- Save programs that work before trying to change them.

VIII. Help

- Double click on an icon for a basic description and the default values for the icon.
- Select "Show Context Help" (Shortcut: Ctrl + H) from the **Help** menu for context help. When using context help, information about each icon will appear when you rollover any icon.
- Right-click (Mac: command + click) on any icon and select **Help** from the menu for descriptions, hints and examples of how to use the selected icon.

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