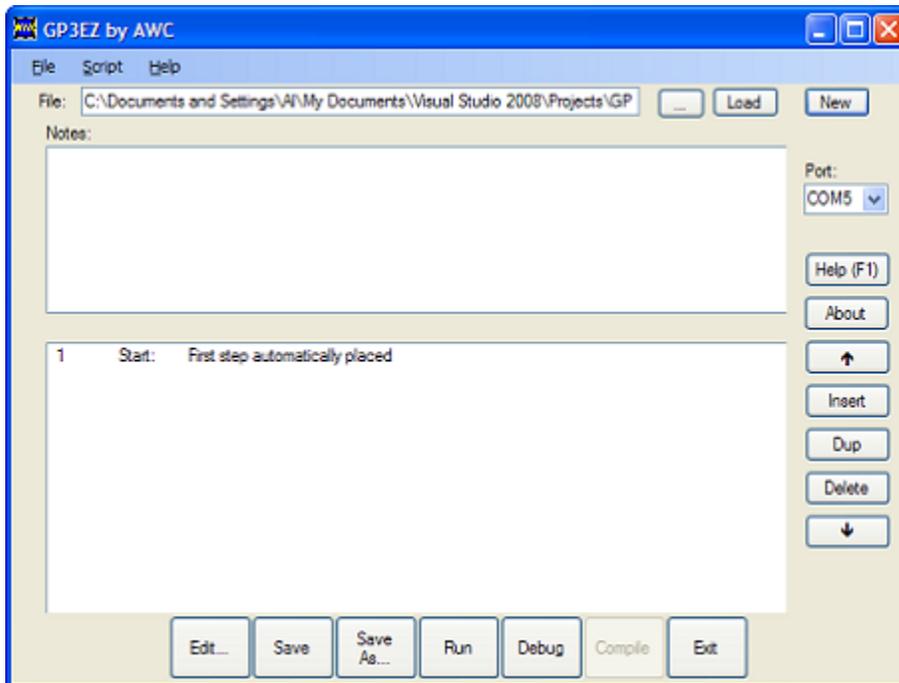


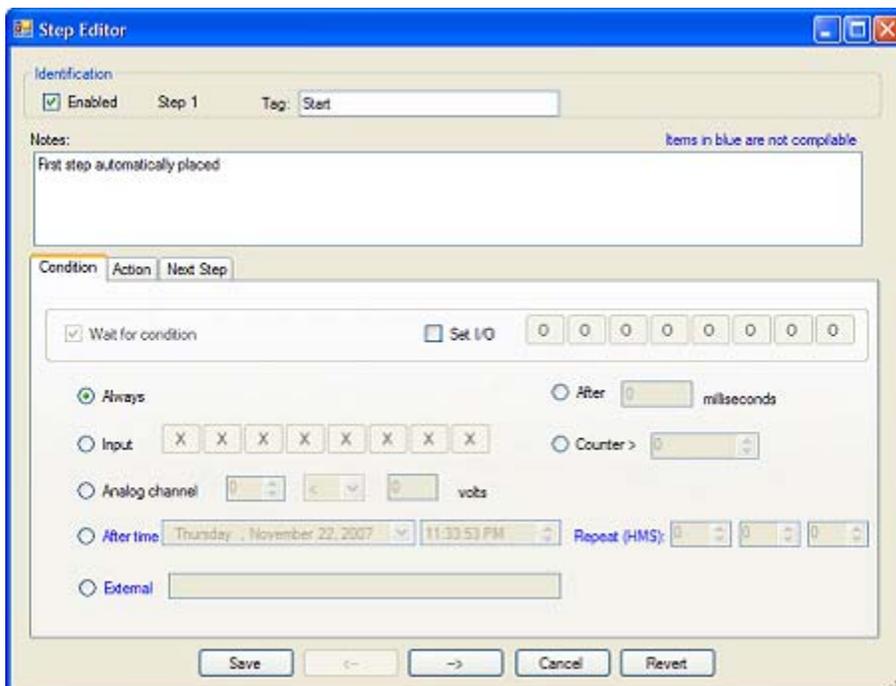
Tutorial

[Previous](#) [Top](#) [Next](#)

Here's a simple tutorial to help you get started with GP3EZ. In traditional programming you learn how to write "Hello World." This example will do the embedded system equivalent -- blinking a light. Launch the program and select the COM port that your GP3 board connects to. In this example, the port is COM5:



There is a single step already in place. Double click on it to bring up the step editor:



Note the step is enabled. That's good because if it isn't enabled, it won't have any effect when you run the script, and GP3EZ will just skip it and go to the next step (if any). This step also has a tag of "Start" by default. This is just a nickname you use to refer to the step. You could change if you like. Steps don't have to have a tag if you don't need to refer to them in other parts of the script. However, having unneeded tag names is harmless. The

Notes field is a place for you to make any comments or notes you need to remember what this step does. GP3EZ doesn't really pay any attention to this. You can leave it blank or write as much as you like to document this step.

Note there are three tabs:

- Condition - What makes this step actually occur?
- Action - What does this step do when it activates?
- Next Step - Where to go next?

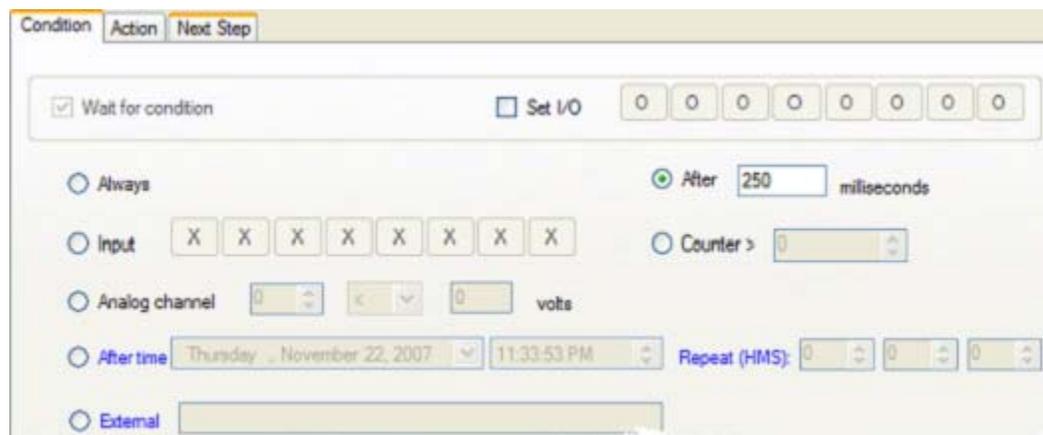
Normally, GP3EZ will start with the first step (this one) and move on to step #2, then step #3, and so on. If this step is disabled, or the condition is not met, then step #2 will definitely be the next step (assuming we make a step #2, which we will shortly). However, if the condition is met, the next step will be determined by the "Next Step" tab. By default, however, it simply moves to the next step. If there is no next step, the GP3EZ software halts the script execution.

Each step can have only one condition. By default the condition is "Always" which means this step is always executed. If you need to wait for more than one condition, you'll have to break your logic up into multiple steps.

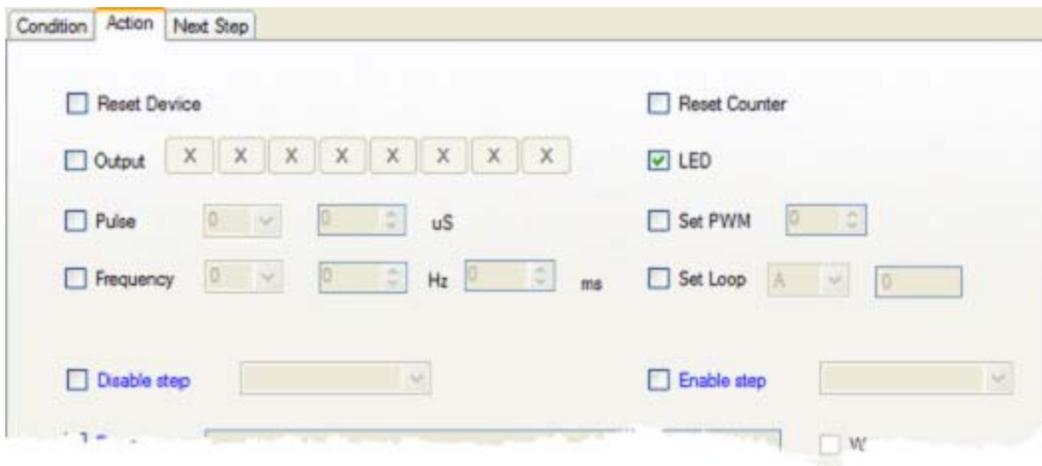
Notice that you can wait for some conditions. For example, if you were waiting for a particular input pattern, the behavior will change based on the "Wait for condition" check mark. If checked, GP3EZ will wait on this step until the condition is met. If the the check mark is not checked, GP3EZ will check the condition. If it is met, the action and the next step will take effect. If it is not met, GP3EZ will just go on to the next step. Of course, not all conditions make sense to wait and those conditions will gray out the wait check box.

To blink the onboard LED, we will make this step wait a short period of time and turn the LED on. Then we'll make a second step which will wait a little while, turn the LED off, and go back to this step (named Start, if you recall).

To complete this condition step, click on "After" and type in 250 in the milliseconds box. This will delay for 1/4 second (there are 1000 milliseconds in a second).



Now click the Action tab. You can select more than one action at a time, but in this case we just need one: the check box marked LED. This is a "three state" LED. By default it is grayed out (the exact appearance depends on how your computer is set up). When grayed out, GP3EZ won't change the state of the LED. Each time you click on the check box it will cycle between on, off, and "gray." For this step, we want the check mark to be on:



That's it for this step. We need to make a second step, and you can do that by pressing the -> button at the bottom of the window. This takes you to the "next" step, but since there isn't a next step, the editor makes one.

Note the new step starts out with the Enabled check box turned off. So the first thing to do is click that box to turn the step on. Also, notice the editor has put you back at the Condition tab. Click on "After" again and enter 250 in the milliseconds box. This step doesn't need a tag. You can put something in the notes if you wish, although this is just for your benefit, so you don't have to change it if you don't want. Switch to the Action tab and select the LED check box to be off (remember, it starts out in the "don't change" position, so you'll need to click the box to select the off state. It should look something like this:



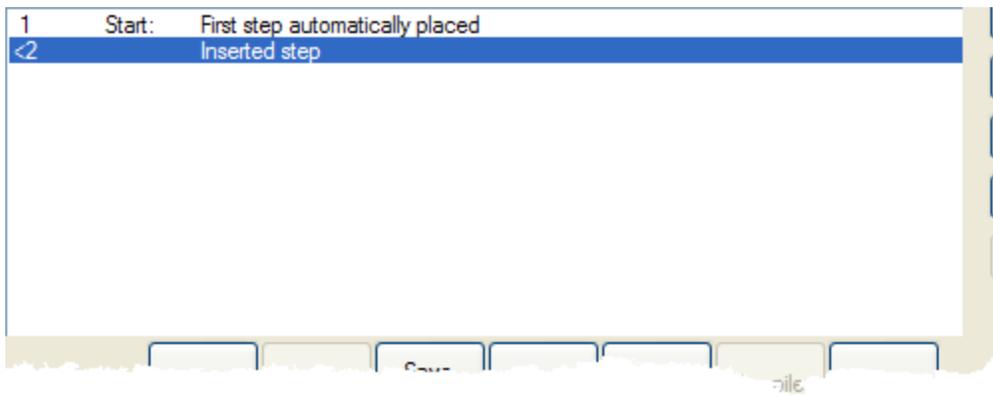
Finally, you need to select the Next Step tab. There are three buttons on this tab. The default button, "Next," tells GP3EZ to just continue on with the next step when this step is done. That's not what we want. The second button ("Goto") will let GP3EZ jump to another step. That's what we want. We want to go to the "Start" step. Remember, this will only happen when the current step's condition is true, but in this case, the condition is a timed wait, so it will eventually be true every time.

You can click the Goto button or you can just drop down the list and pick Start from the list which will automatically pick the Goto button at the same time:



Leave the "Bookmark Place" and "Loop" boxes unchecked. You'd check the bookmark box if you wanted to call a subroutine that would later come back to the next step by using the "Last Bookmark" button (if you don't know what that means, don't worry about it; you don't have to use this feature). The loop box is used for repeating a sequence of steps a certain number of times.

Now you can press the Save button at the bottom of the window to return to the main window. The script list should now look like:



If you changed the Notes on the steps you might have a slightly different appearance, of course. The "<" to the left of the second step is a clue that the step doesn't continue on to the next step.

You might want to save the script using the "Save As..." button. If you have the GP3 connected and powered on, pressing Run should show you a blinking LED! Congratulations! You just wrote your first GP3EZ script.