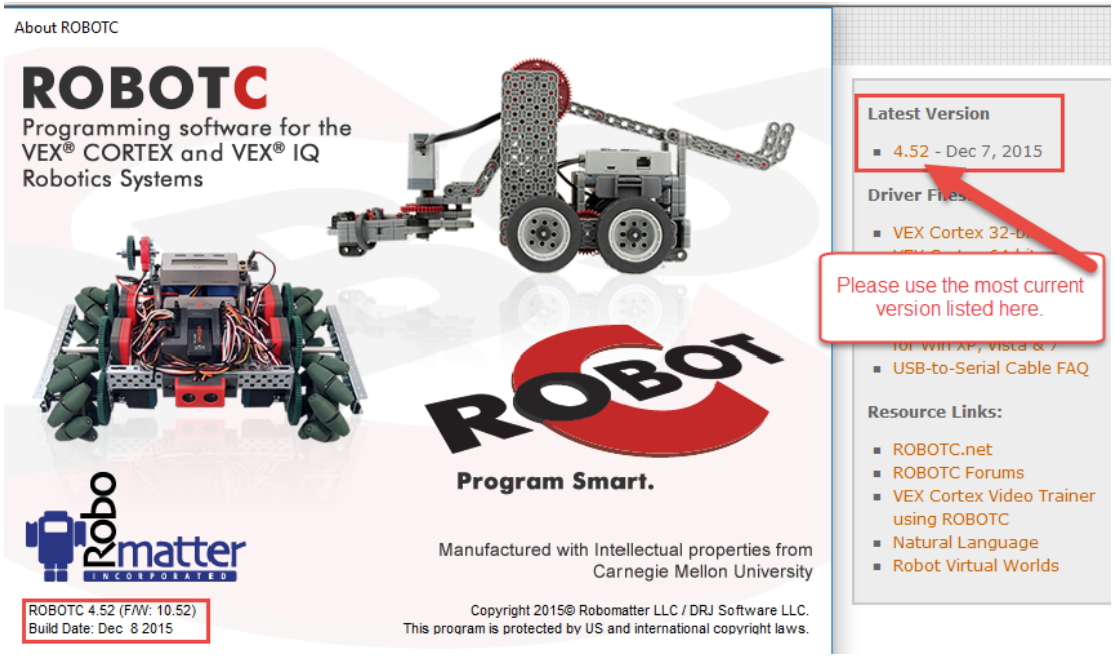
How to Use RobotC for Programming

Updated: 5/19/2016

This document will walk you through the steps to prepare RobotC for programming, connecting your cortex, and building a simple program. This document will help verify that your software and hardware are working properly.

Step 1: Verify you are using the most current version of RobotC.

When you launch RobotC, you will see the "VEX Start Page" and the "About ROBOTC" splash screen. Verify your version matches to the version listed on the "VEX Start Page".

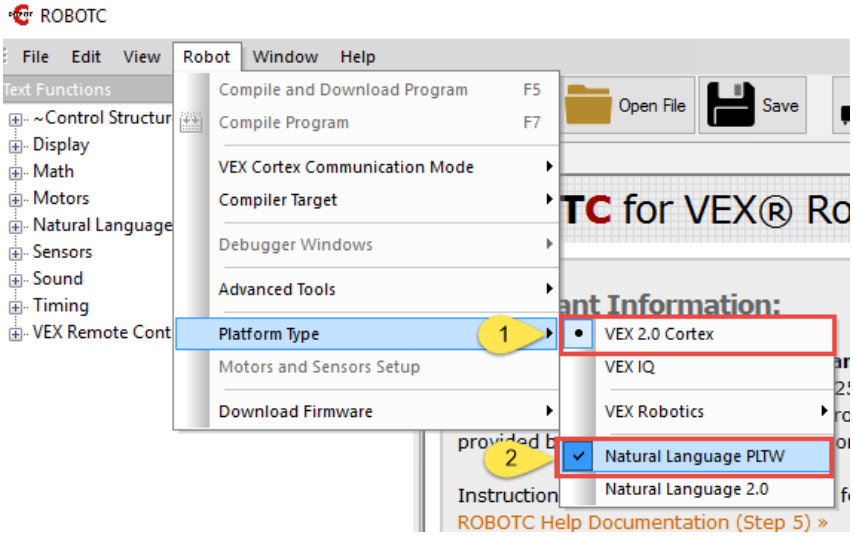


If your version is out of date, update your version to the most current version listed on the "VEX Start Page" by clicking on the hyperlink and installing. If the "About ROBOTC" page doesn't come up you can access it by going to **Help > About ROBOTC.**

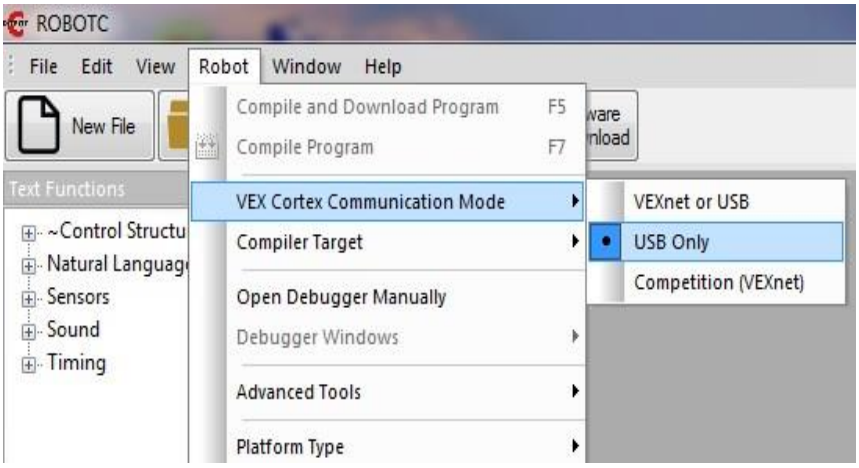
The update will install over the top of the current version and will not negatively affect your licensing.

Step 2: Configure RobotC for programming.

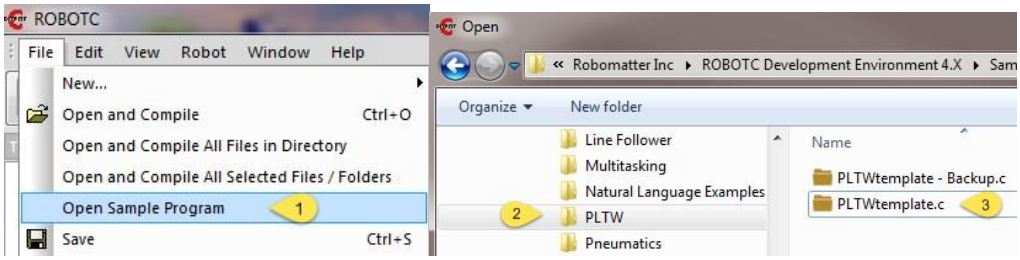
1. Select Platform Type as "VEX 2.0 Cortex" first and PLTW Natural Language.



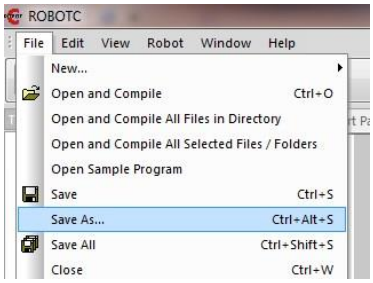
2. Select the VEX Cortex Communication Mode to "USB Only"



3. Open the PLTWtemplate file by going to **File > Open Sample Programs > PLTW > PLTWtemplate**.



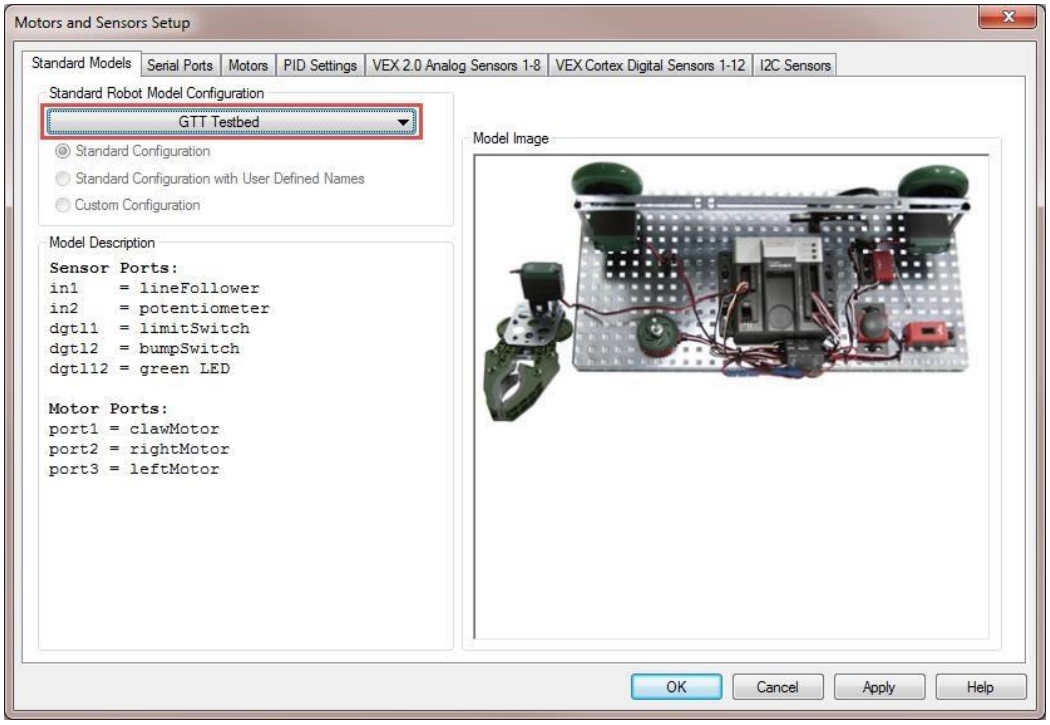
4. Save the template to your own computer as **Sample Program**.



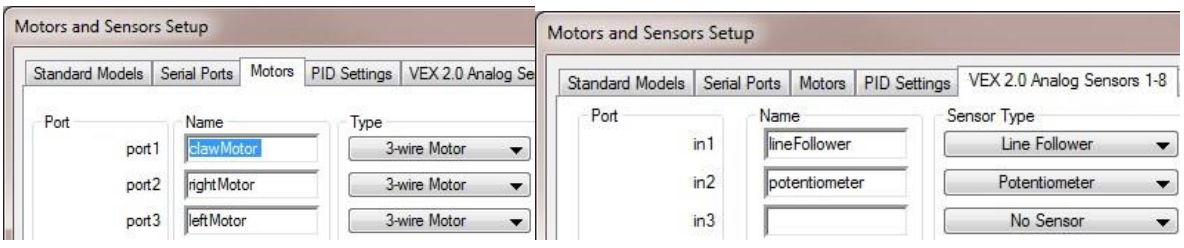
Step 3: Motor and Sensor Setup.

1. Select "Motor and Sensor Setup", which tells your program what ports on your robot you have things set up to. What you enter in this section MUST match what you have setup with your
   Cortex and Robot. You should already have your motors and sensor plugged in at this point.

2. Under the "Standard Models" Tab select the testbed that matches with the course you are using. For this example we will be using the GTT testbed.



3. You can go to the different tabs and change the Motors or Sensor setup.



4. Select "OK" when finished making edits.

Step 4: Write a simple program.

Below is an example program that will run once the push button is pushed on the testbed. The motors will then run for 12 seconds and then the program will stop.

PLTWtemplate.c | robot drag race.c

```
1  #pragma config(StandardModel, "GTT Testbed")
2  //*!!Code automatically generated by 'ROBOTC' configuration wizard               !!*//
3
4  /*
5  Project Title:
6  Team Members:
7  Date:
8  Section:
9
10
11 Task Description:
12
13
14 Pseudocode:
15
16 */
17
18 task main()
19 {                                    //Program begins, insert code within curly braces
20
21   while(1==1)
22   {
23
24     untilBump(bumpSwitch, 0);
25     startMotor(leftMotor, 127);
26     startMotor(rightMotor, 127);
27     wait(3);
28     stopMotor(leftMotor);
29     stopMotor(rightMotor);
30
31
32   }
33 }
```

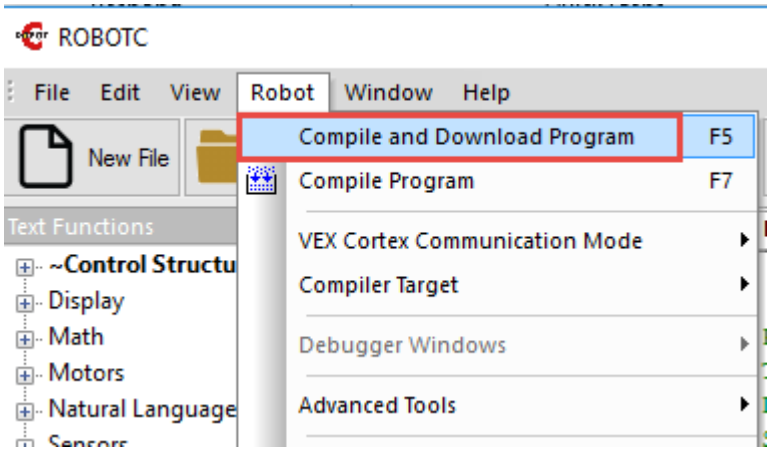
Step 5: Update firmware- **You must plug the Cortex into the computer with a USB cable.**

It is imperative that you update the firmware to the most current version for the program to download and run properly. Click the "Firmware Download" button and update the firmware.

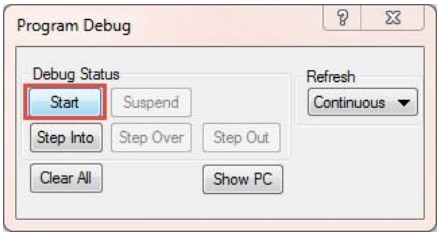
Step 6: Download the program to the robot.

1. Power on the cortex.

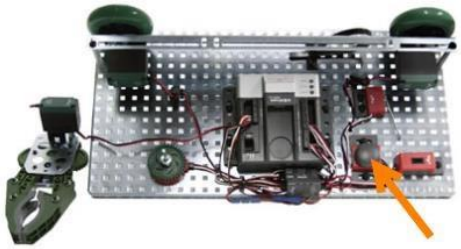
2. Select Robot then Compile and Download Program.



3. Select "Start" on the Program Debug Window.



4. Push down the Push Button sensor on the test bed and the program will run for 3 seconds and stop.



5. Unplug your Cortex from your computer.
6. Turn the power off on the cortex.

7. Turn the power back on for the cortex.
8. Push down the Push Button sensor and the program will run autonomously.

** Note: This process can be modified for different programs. This is used to verify that all of your software and hardware are working properly. **

** For specific coding troubleshooting please post those on the PLC's or post your question to the
RobotC forum page: http://robotc.net/forums/viewforum.php?f=11. **