



VEX-IQ

(Programming Your Bot)

Driver Control Mode

YouTube Tutorial

Modkit for VEX Part 1 - Setup

<http://www.youtube.com/watch?v=NhTpHzvFb>

[Ms](#)

(Optional)

To Prepare for Programming

- Step 1 - Make sure your firmware is up-to-date with the [VEX Firmware Updater, available here](#).

Advice:

Try this process at home first with your home internet access. School/external organization internet access may restrict functionality due to firewall limitations.

To Prepare for Programming

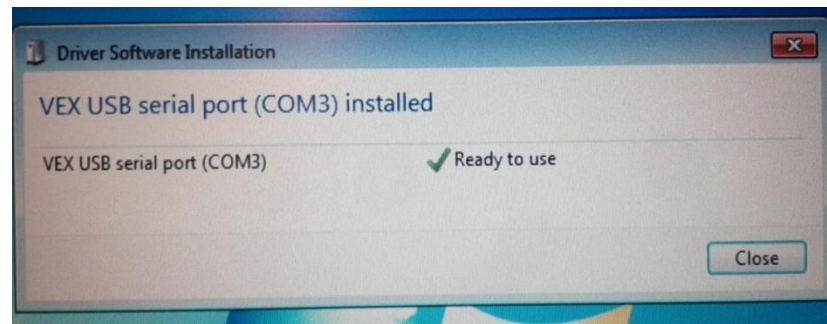
- Step 2 - Install **Modkit Link**:
 - Download and Install the latest Modkit Link software for Windows or Mac ([Link](#)).
 - *your antivirus software or firewall may ask you if it's OK to run this, please allow it.
 - Launch the Modkit Link software – this will run in the background and it may not be initially obvious it's running. Look for the "m" icon in the system tray (Windows) or menu bar near the clock (Mac).
 - (Make sure to check both boxes for network access.)

To Prepare for Programming

- Step 3 – Download and install Google Chrome
- Step 4 - Get a Google account id: gmail, youtube, etc. (you will need it to save your files)
- Connect your VEX-IQ bot to your computer via the micro USB cable

To Prepare for Programming

- Power on your VEX-IQ bot
- You should see the following dialog box if this is your first time plugging in the VEX-IQ bot to your computer.

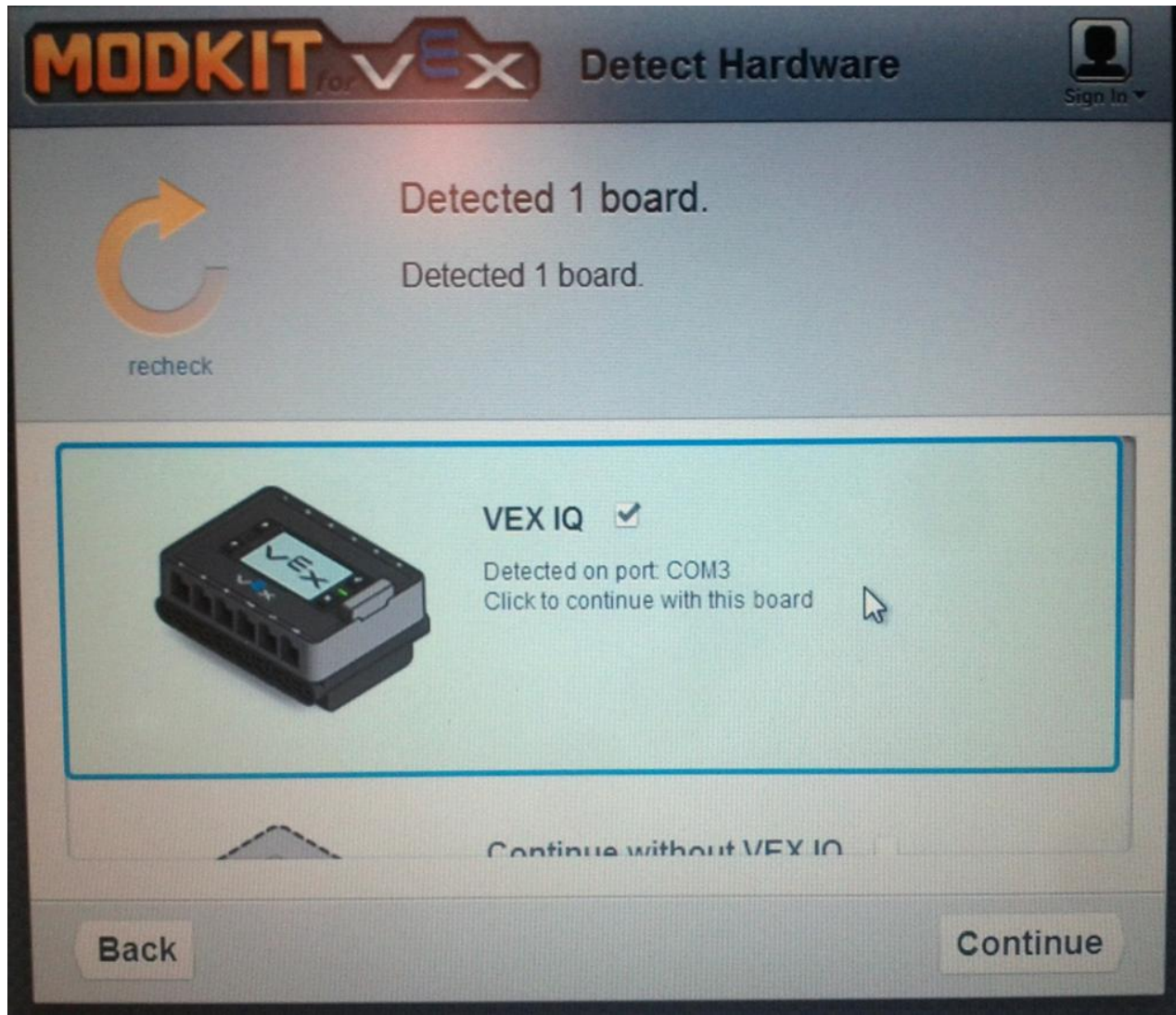


- Step 5 - Launch the web version of Modkit for VEX from the [link](#).

Programming your bot to respond to your joystick



You should see this:



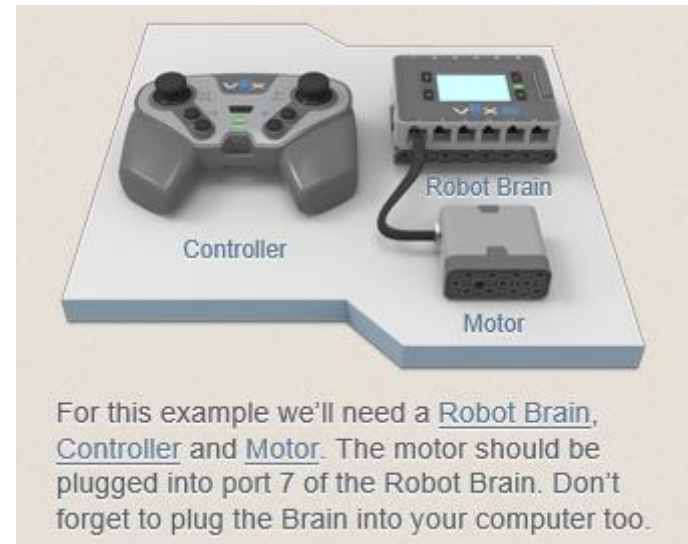
Controller Actions

- Controller Actions are the simplest way to control how your robot behaves. With Controller Actions you decide what you want your robot to do when you press the Controller's buttons or move its joysticks.

What You'll Make

- Motor that is controlled by the left joystick and 2 of the Controller buttons.

What You'll Need



YouTube Tutorial

Modkit for VEX Part 2 – Driver Control

<http://www.youtube.com/watch?v=kND5jS0uO>

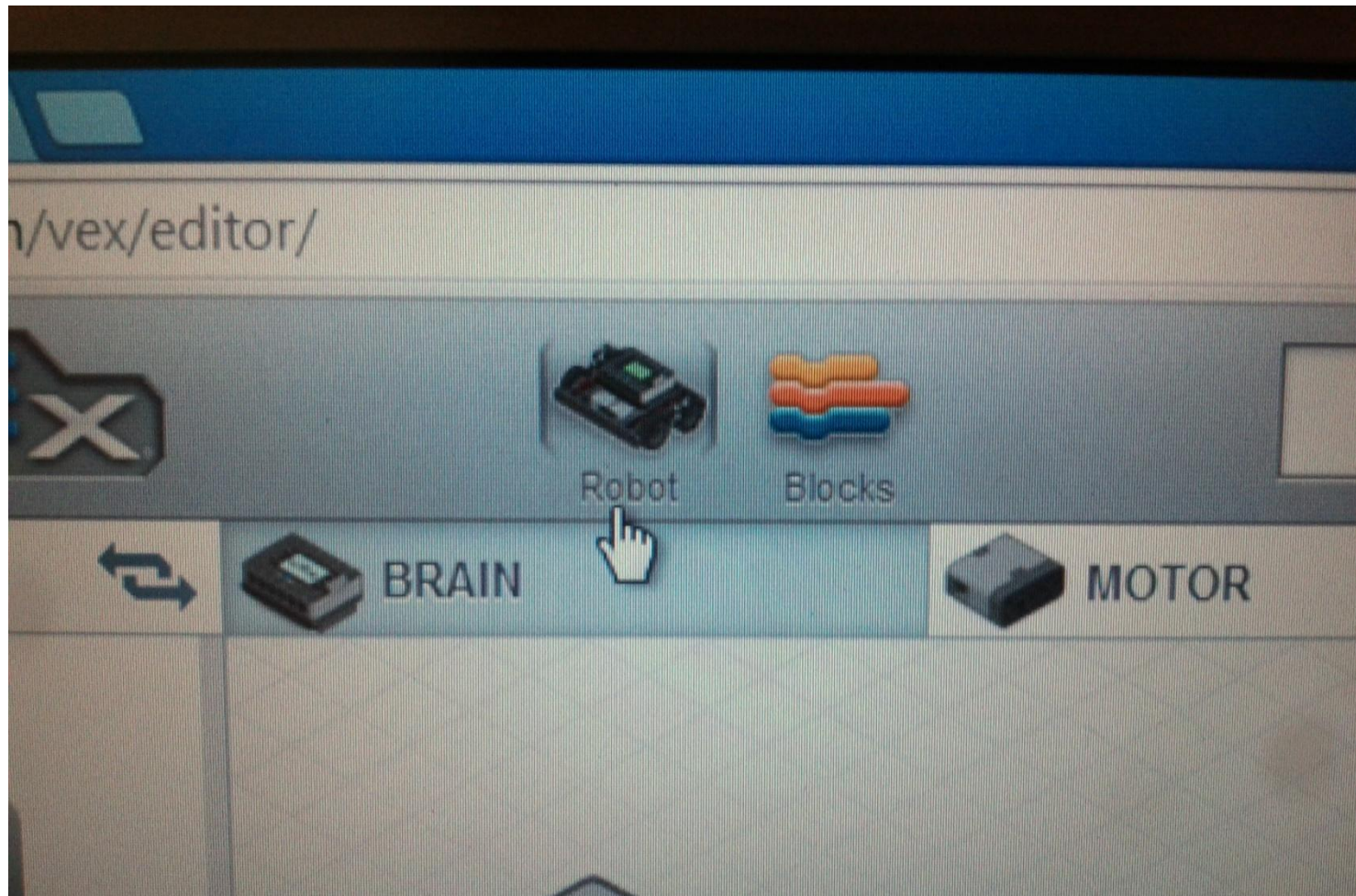
A8

(Optional)

Giving instructions to your robot

- Your robot's components will need to calibrate to a specific function. (For example, your motor will spin clockwise or counter clockwise when you press a button.)
- In Modkit, you will begin in 'Robot' mode.
- This will allow you to calibrate each component as well as designate its connections to the brain and to the joystick.

Pictorial 'Robot' Mode



1. Add a Motor & Controller



In Robot View, drag & drop a Motor and Controller to the Robot Pad.

2. Setup Motor

The screenshot shows the MODKIT for VEX software interface. At the top, there is a logo for MODKIT for VEX and a 'Motor Controller' window with a 'Project' dropdown. Below the logo are icons for 'Robot' and 'Blocks'. The main interface has a 'VEX IQ' dropdown and a navigation bar with 'BRAIN', 'CONTROLLER', and 'MOTOR' tabs. The 'MOTOR' tab is active. On the left, there are three components: 'Motor', 'Controller', and 'Button'. In the center, a 'MOTOR' component is highlighted with a blue border. A dropdown menu is open over this component, listing ports from PORT1 to PORT12. A mouse cursor is pointing at 'PORT7'. On the right, there are two images: a VEX IQ Brain and a VEX IQ Controller.

Select port 7 for the Motor. Make sure you've plugged the motor into port 7 on your Robot Brain.

3. Open Controller Actions

The screenshot displays the MODKIT for VEX software interface. At the top, the logo "MODKIT for VEX" is visible, along with icons for "Robot" and "Blocks". The main menu includes "VEX IQ", "BRAIN", "CONTROLLER", and "MOTOR". The "CONTROLLER" tab is active. A "Controller Actions" window is open, showing a central image of a game controller and two columns of dropdown menus for button assignments. The left column includes L, L ▲, A ▲ ▼, B ◀ ▶, E ▲, and E ▼. The right column includes R, R ▲, D ▲ ▼, C ◀ ▶, F ▲, and F ▼. All dropdown menus are currently set to "None". A blue circle highlights a gear icon next to a controller icon in the background, which is the "Controller Actions" button mentioned in the text.

Then click the Controller Actions button next to the port menu to open the Controller Actions window.

4. Select Controller Actions

The screenshot shows the MODKIT for VEX software interface. At the top, there is a logo for MODKIT for VEX, icons for Robot and Blocks, and a 'Motor Controller' section with a 'Project' dropdown and a 'Select a Slot' dropdown. Below this is a navigation bar with 'VEX IQ', 'BRAIN', 'CONTROLLER', and 'MOTOR' tabs. The main workspace shows a 3D model of a VEX IQ robot with a motor controller and a game controller. A 'Controller Actions' dialog box is open, showing a 3D model of the game controller and a list of actions for various buttons. The 'A' button action is highlighted with a blue circle, and the 'R▲' and 'R▼' buttons are also highlighted. The 'A' button action is set to '▲FWD/▼REV'.

MODKIT for VEX Robot Blocks Motor Controller Project Select a Slot

VEX IQ BRAIN CONTROLLER MOTOR

Controller Actions

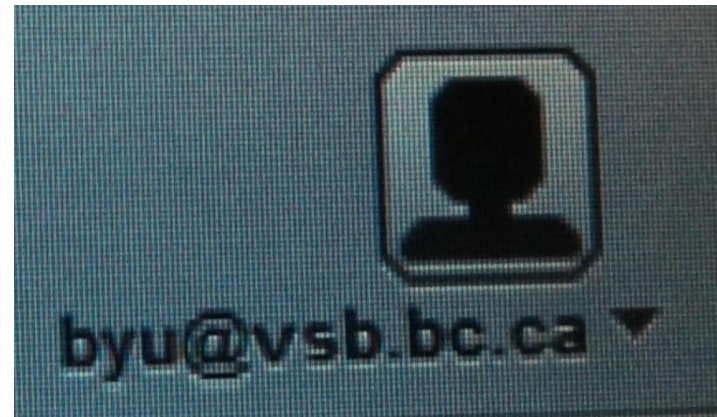
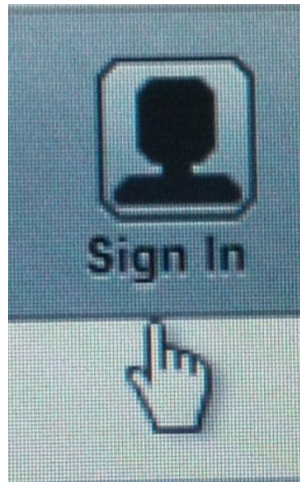
L ▼ None
L ▲ None
A ▲ ▼
None
▲FWD/▼REV
▲REV/▼FWD
E ▲ None
E ▼ None

R ▼ FWD
R ▲ REV
D ▲ ▼ None
C ▲ ▼ None
F ▲ None
F ▼ None

Select actions for the **R▲** and **R▼** buttons and then set the Joystick A action to **▲FWD / ▼REV**

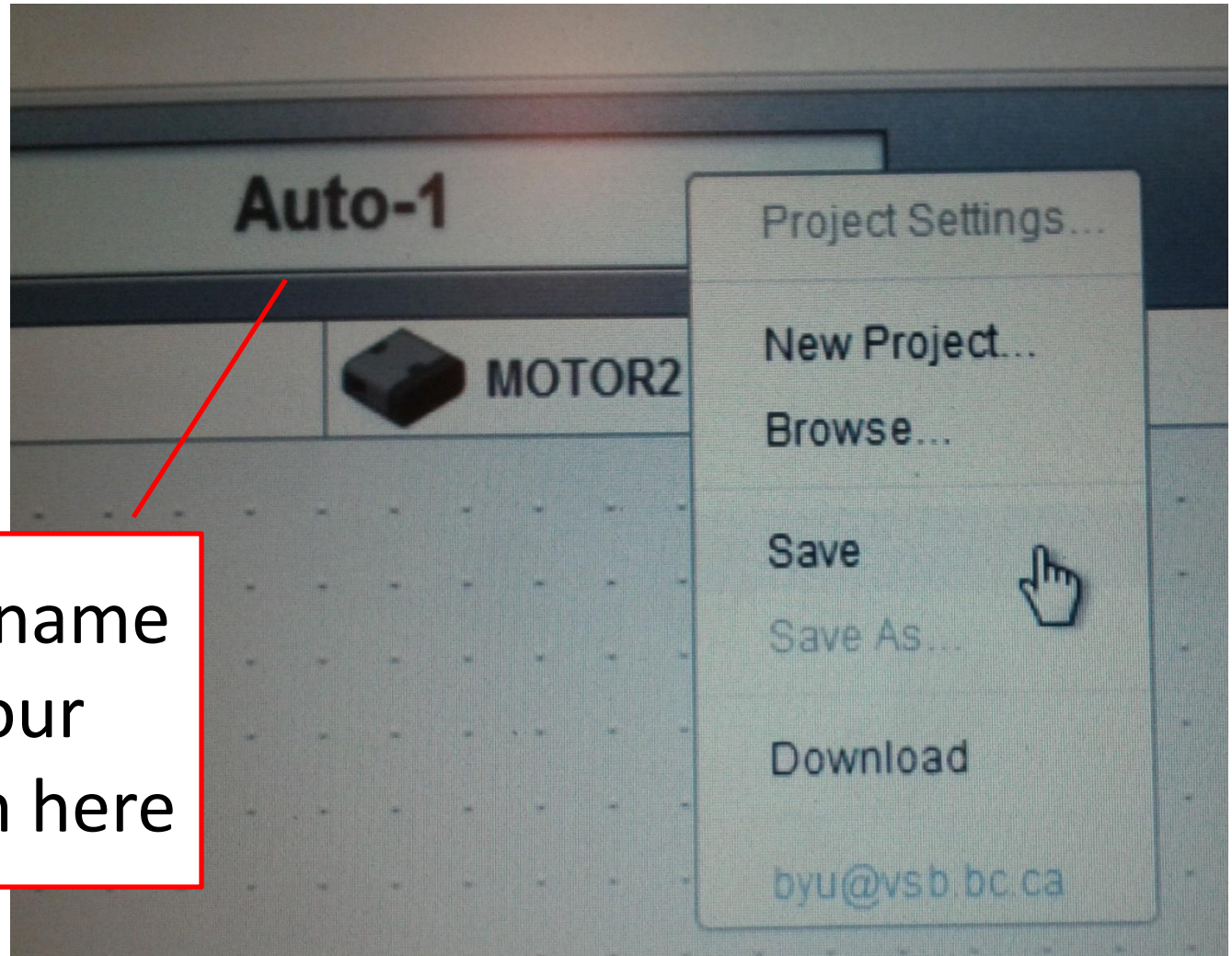
If you have a Google or Yahoo account

- You can save your program. You will need to sign in.



- You can still work with Modkit without signing in.

To Save your program



Enter a name
for your
program here

5. Download Your Program



To download our program to the Robot Brain, select a Program Slot to save it to.



Now you can download the program by clicking the download button a message appears when the download has completed.

Step 6 – Power on the VEX-IQ Robot

7. Test the Downloaded Program



Select the program in the slot number you chose and run it. Both the joystick and controller should control your motor now.

More to try

- Add Controller actions for a second Motor to drive a robot on the floor. Hint: If the second motor is facing the opposite way, make sure to select Drive (Reversed).

The End of Tutorial