

Lab Activity 2

Using Squarebot to Work with the Transmitter's Reverse Option

Overview: The Vex transmitter allows the user to edit several of its functions. With experience, it is possible to greatly change the robot's behavior using the transmitter options alone. In this investigation, you will learn how to control motor direction with the reverse option.

Upon completion of this activity the student will be able to:

- Work within the transmitter options menu
- Use the transmitter menu to alter Squarebot's response to joystick control
- Use technical writing to describe how to edit the transmitter's reverse option

Materials needed:

- Squarebot
- Radio control transmitter

2.0 Using the Reverse Option

2.1

You may have moved the motor plugs around in the last part of the exercise, but let's return them to their original positions. The left motor should be plugged into motor port 3 and the right motor should be plugged into motor port 2.

2.2

Enter the transmitter menu by holding down the Mode and Select buttons until it beeps. Press the Mode button until the word "REVERSE" appears on the screen.



2.3

Now, let's edit the settings for channel 2, which is the vertical axis of the right joystick. Press Select once. The number 2 should be flashing next to the "CH" on the screen. If there is a number other than 2, continue pressing select until you get to the 2.

2.4

There should be a small arrow beside the letters "STD."



Press the Data Input button in the minus direction to make the small arrow move next to the letters "REV."

2.5

Perform the following actions and write down Squarebot's response. Be sure to record the action of the individual wheels.

- a. Push the right joystick up _____
- b. Push the right joystick down _____
- c. Push the right joystick to the right _____
- d. Push the right joystick to the left _____

2.6

Did any of the results differ from step 1.7 in the lesson on default transmitter settings? What do you think the Reverse menu does?

2.7

Using proper terminology, describe how to program the transmitter to use the reverse option.

2.8

Have another student follow the directions that you just wrote. Did you accurately describe how to program the transmitter?

2.9

When you are done experimenting, reset the transmitter to its default settings and exit the transmitter options menu.