

ADVANCED EV3 PROGRAMMING LESSON



Proportional Control with the Sound Sensor

By Sanjay and Arvind Seshan



Lesson Objectives

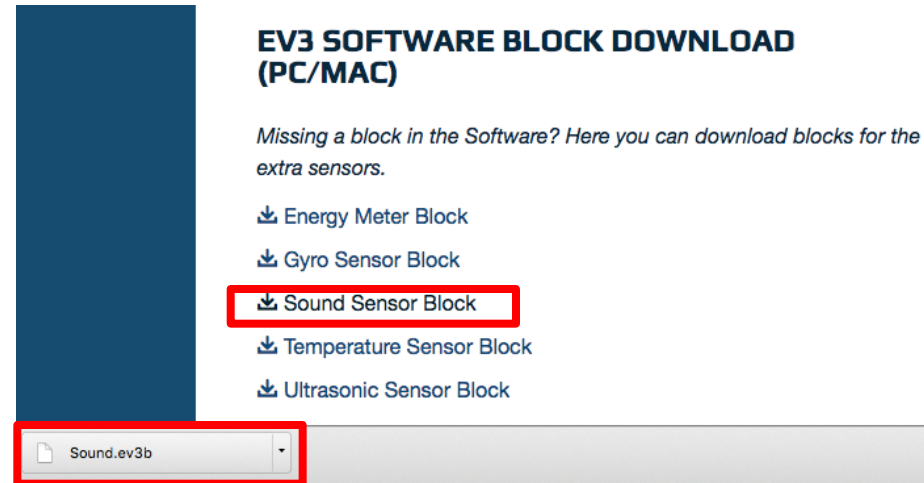


1. Learn to use the Sound Sensor with proportional control

Pre-requisites: Proportional Control, Sound Sensor, Data wires, Loops

Downloading the Sound Block

- The Sound Block is available for download on the LEGO.com site:
 - <http://www.lego.com/en-us/mindstorms/download>
S
- Download the block using the Importing Additional Blocks Lesson in Beginner



EV3 SOFTWARE BLOCK DOWNLOAD (PC/MAC)

Missing a block in the Software? Here you can download blocks for the extra sensors.

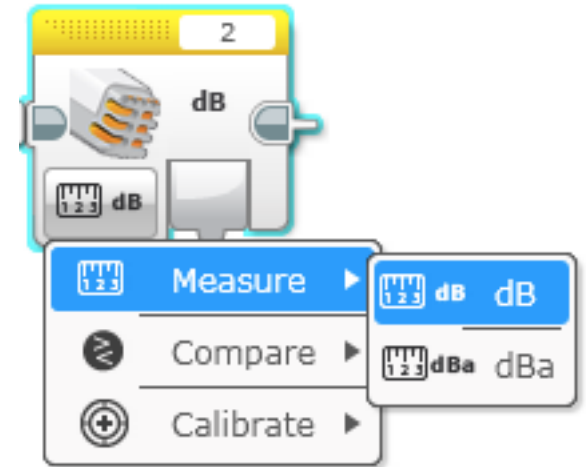
- ↓ Energy Meter Block
- ↓ Gyro Sensor Block
- ↓ **Sound Sensor Block**
- ↓ Temperature Sensor Block
- ↓ Ultrasonic Sensor Block

Sound.ev3b



Sound Sensor: Measure Mode

- Measure Mode
 - dB
 - Sound level, scaled to a percentage
 - dBa
 - Sound level, adjusted to approximate human ear sensitivity, and then scaled to a percentage

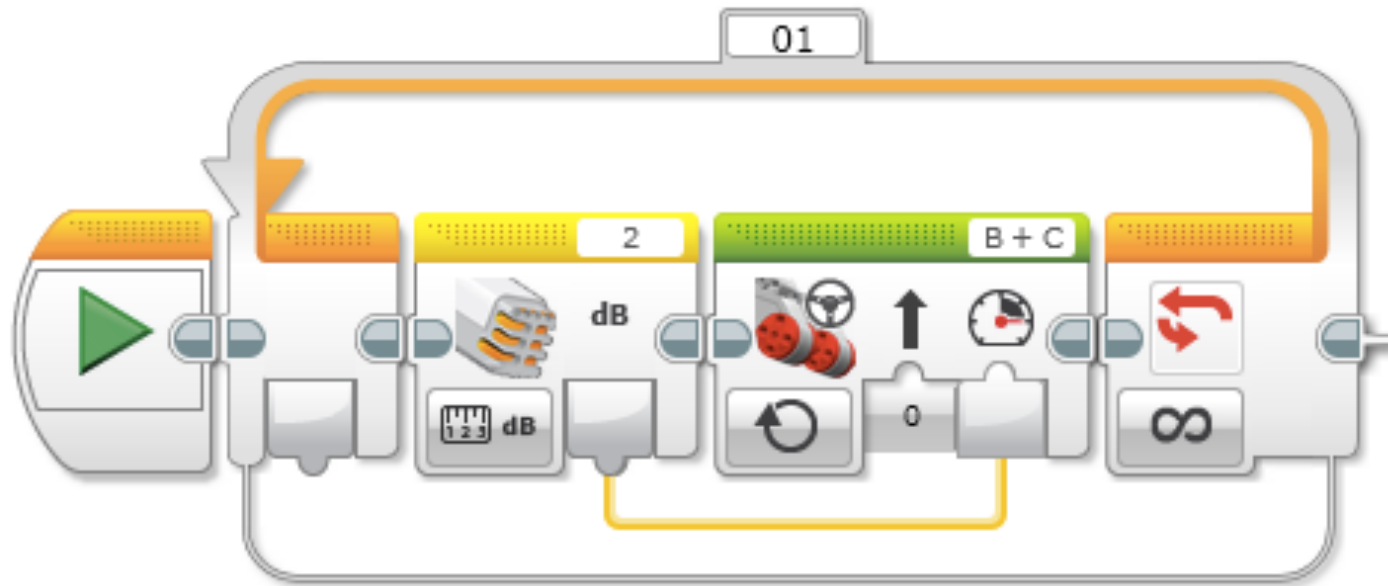


- Source: EV3 Help Menu

Sound Sensor Challenge

- In the Sound Sensor lesson in Beginner, the challenge was to write a “Celebration” program where the robot moves faster or slower depending on how loud the sound is
- For this challenge, we will improve this code by using proportional control
- Hint
 - The Sound Sensor Block in Measure Mode will be used
 - You can use dB or dBa for this challenge

Challenge Solution



Credits

- This tutorial was created by Sanjay Seshan and Arvind
- More lessons are available at www.ev3lessons.com



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