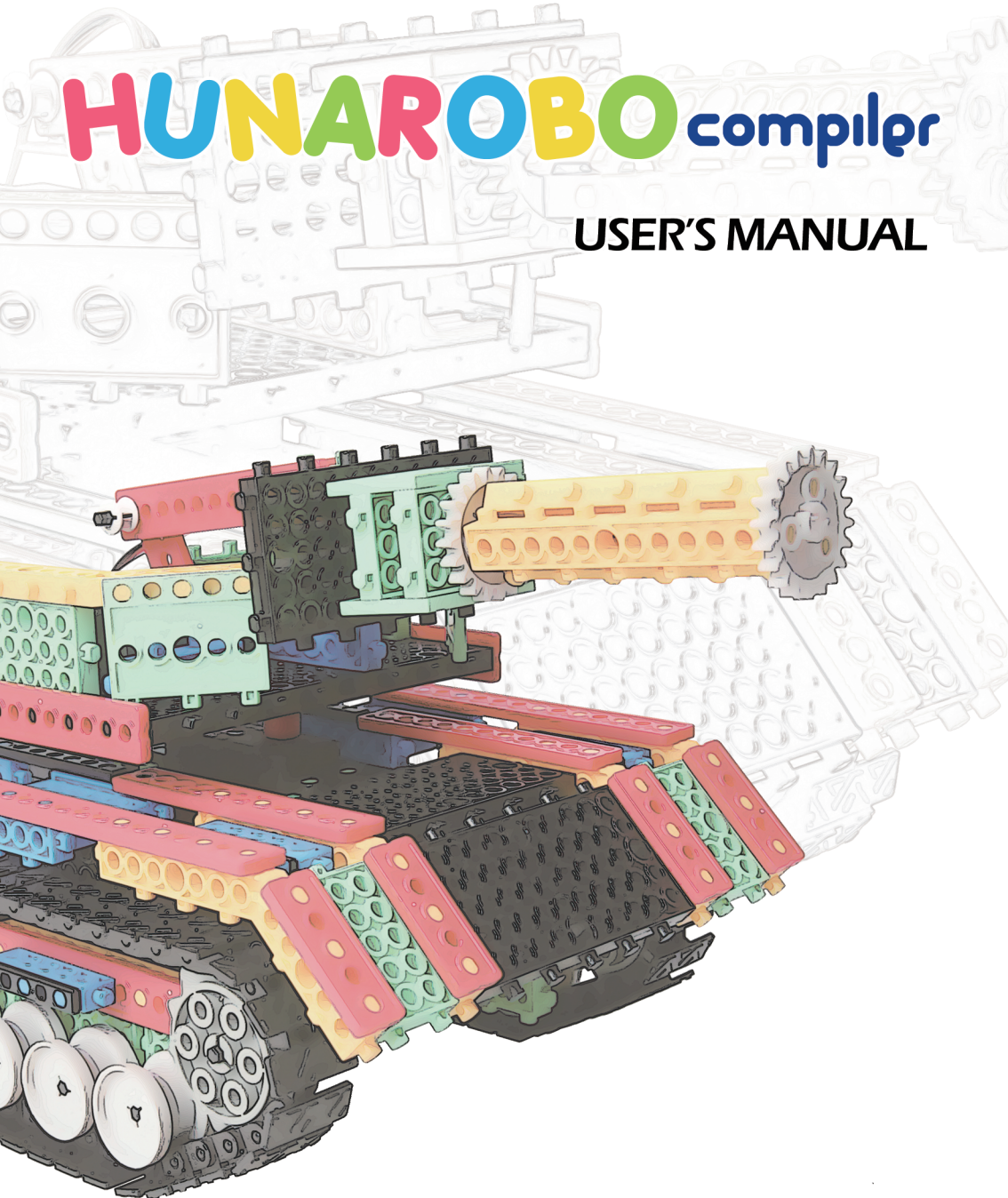




# HUNAROBO compiler

## USER'S MANUAL



## HUNAROBO COMPILER?

HUNAROBO COMPILER is the software that makes operating the HUNAROBO and T.O.P programs possible.

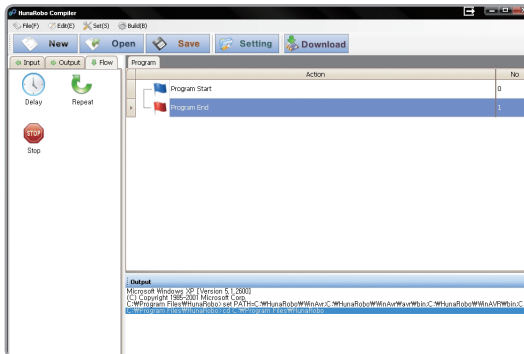
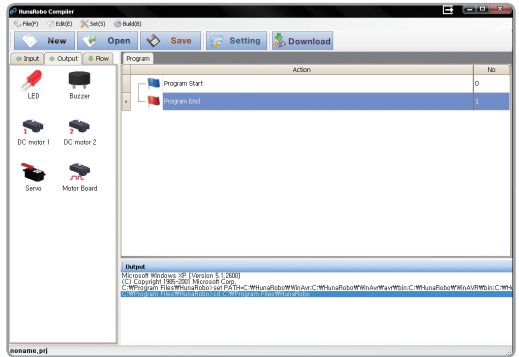
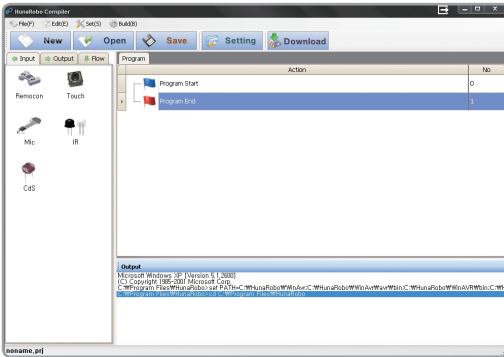
Robot in general should be programmed by coding directly with C - language (System - programming language). However, it takes a long time to learn this program.

This HUNAROBO Compiler makes it easy for everyone to control robots with the GUI interface.

If you make a program with the module that you want, you will be able to develop new learning abilities and logical thinking skills.

## HunaRobo Compiler User Installation

- When installing,the capacity of hard disk needs to be 200MB
- When using, the capacity of hard disk needs to be 100MB and more 512MB of RAM
- Requires Intel Pentium4 or compatible processor
- Suitable for over Microsoft Window XP



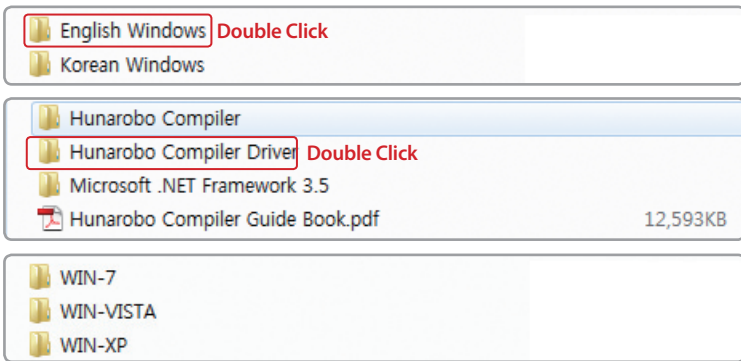
# INSTALLATION OF HUNAROBO COMPILER DRIVER

## Downloading compressed file for program

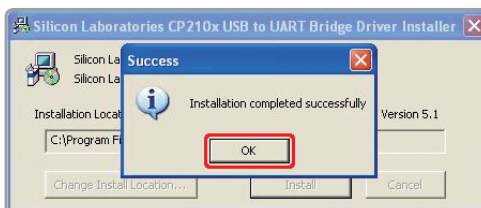
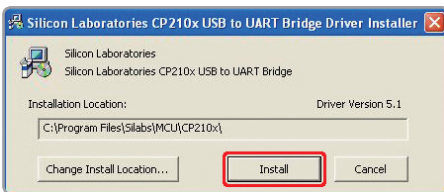
Download the HUNAROBO COMPILER file from our website, [www.hunarobo.com](http://www.hunarobo.com) (Hunarobo data room) or open HUNAROBO PROGRAM CD and then copy the English Windows folder to your computer.

## Installation of USB Download Driver

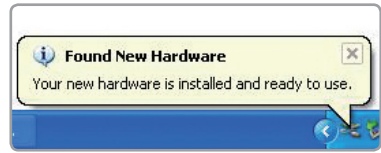
- A. Double click on the English Windows folder → Double click on the Hunarobo Compiler Driver → Check the Windows version → Double click on the **CP210xVCPInstaller.exe**



- B. Click 'INSTALL' on the setup screen. → Press 'OK'

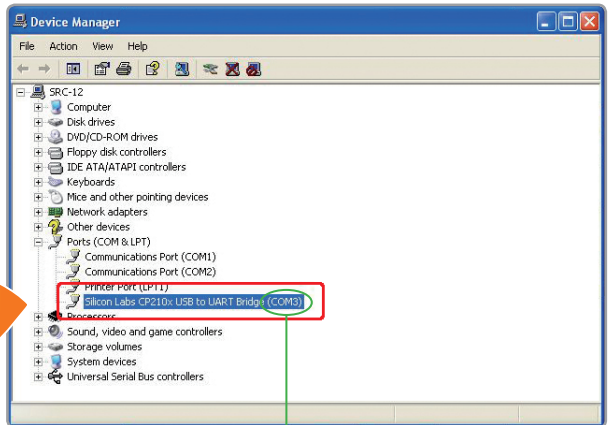
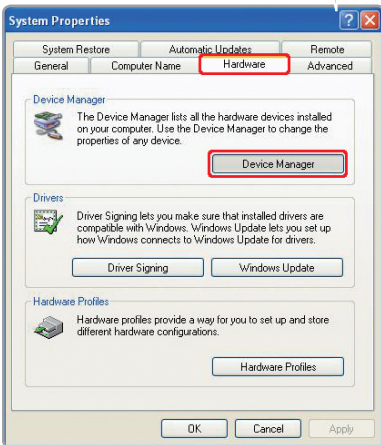
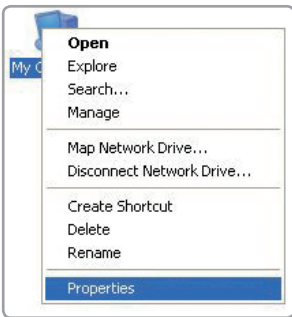


C. When connecting USB DOWNLOAD Cable, the USB Drive will be installed automatically.



### Check USB DOWNLOAD Communication Port

Click on the Properties(R) on my computer Icon → Click 'Hardware' Tab → Click 'Device Manager' → Check COM Port

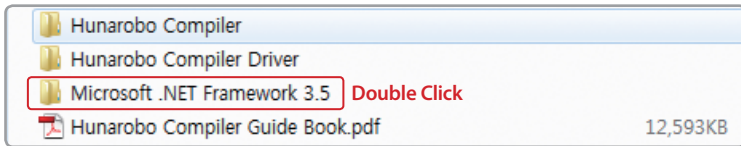
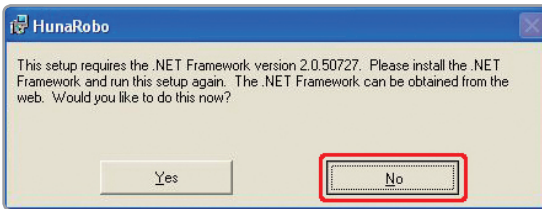


Depends on your own computer port  
(ex) COM1 ~ COM8

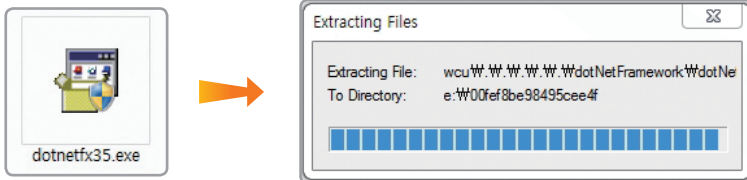
## .NET Framework Setup

### Installation of .NET Framework

A. When you double-click on the **Setup.exe** file, you may find the message like this following picture, the reason why the .NET Framework is not installed properly. Therefore, you should click 'NO' and install it after you decompress **dotnetfx35.exe**



### B. Install .NET Framework



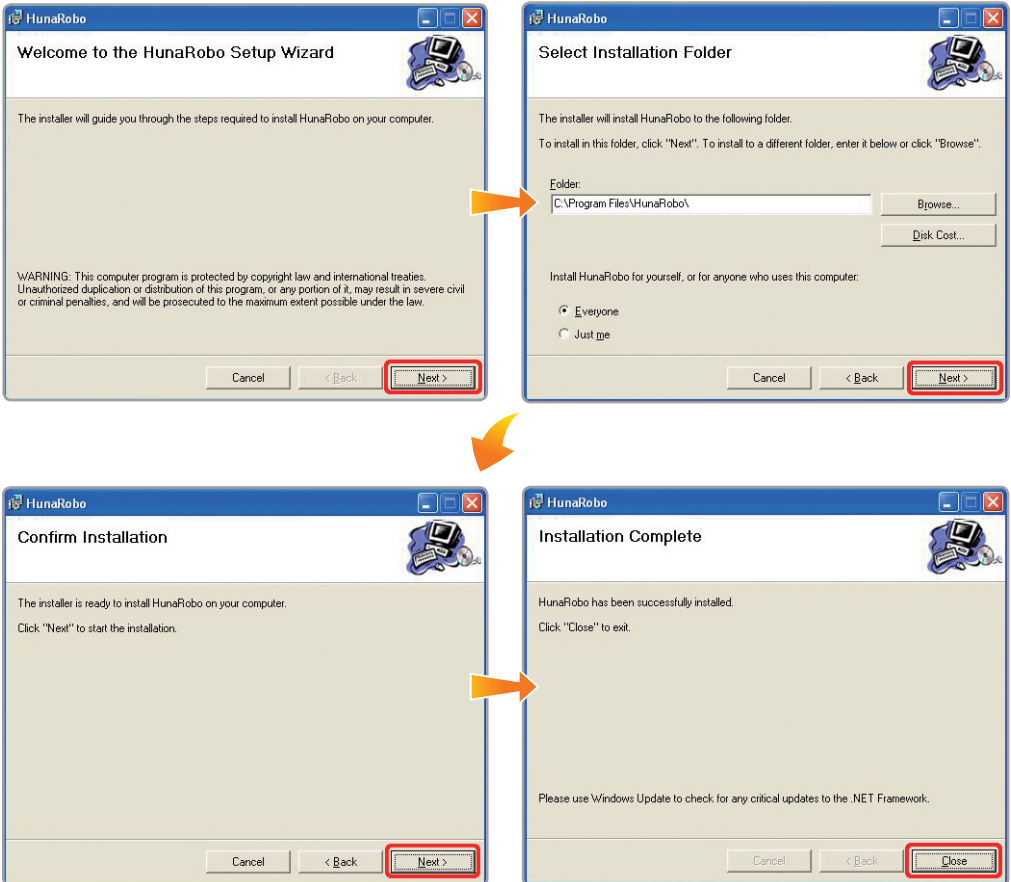
## HunaRobo Compiler Setup

### Installation of new HunaRobo compiler

A. Double click on the English Windows folder → Double click on the Hunarobo Compiler Driver folder → Double click on the **setup.exe**



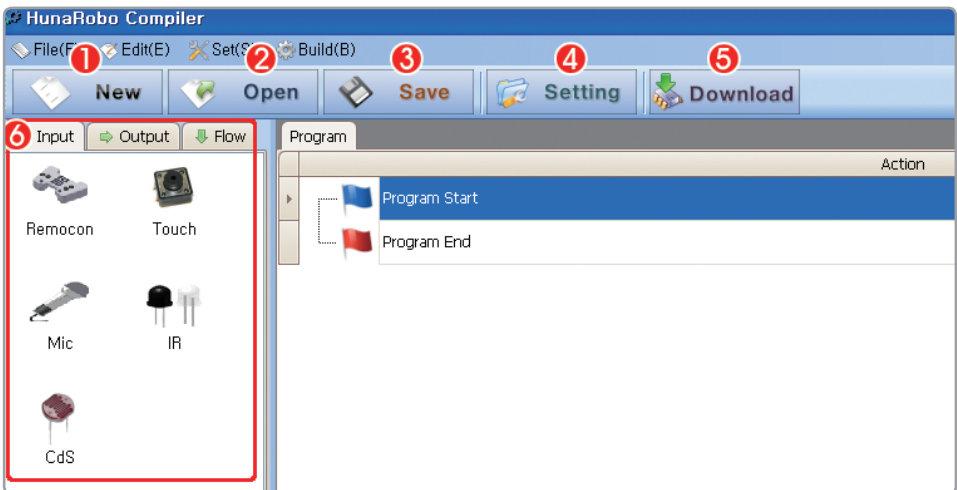
B. Double-click on the **setup.exe** icon, the setup screen appears.



# HunaRobo Compiler Program - MAIN

## Program Menu Description

- Double-click on the HunaRobo icon, then the setup screen will appear.



- ① New-You can create new programs from the start.
- ② Open-Find and execute previously saved programs.
- ③ Save-You can save completed programs within any folder.
- ④ Setting-You can set up connected COM PORT manually.
- ⑤ Download- Program COMPILE and DOWNLOAD
- ⑥ Menu-This part is for starting programs  
(When starting programs, this icon appears to be clicked on.)

**# TIP**

Copy(Ctrl +C): Copy the written program.

Cut(Ctrl +C): Cut the written program.

Paste(Ctrl + V): Place any previously copied or cut program in place you want.

# HunaRobo Compiler - Input

## Input selection window(Input)

● Select Input tab at selection window <This input tab is selected as default.>



### A. Remote Control(Remocon) Input

UP, DOWN, LEFT, RIGHT

UP+LEFT, UP+RIGHT, DOWN+LEFT, DOWN+RIGHT

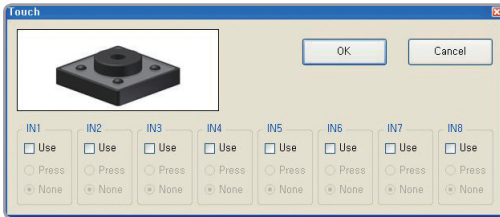
Function Key(F1~F6), KEY OFF(When releasing your hands from the remote control)

<When using DC Motor, it is recommended to use 'Both motors stop' at KEY OFF key. >

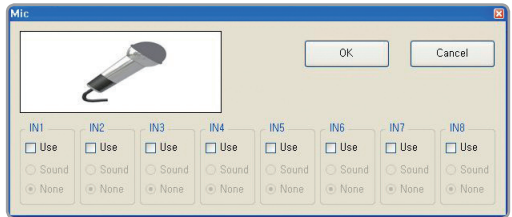
### B. Input Touch, Mic, IR, CdS sensor

Select 'USE' button box as below picture depending on the kind of sensors connected to INPUT port of mainboard, activate program after input actions depending on individual sensor functions.

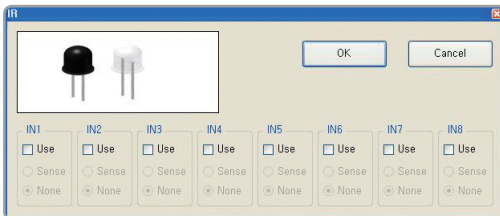
<You can simultaneously select IN1~IN7 to the maximum in HunaRobo Level 2, Level 3. >



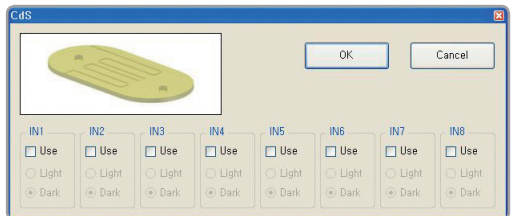
< Touch Sensor >



< Mic Sensor >



< IR Sensor >



< CdS Sensor >

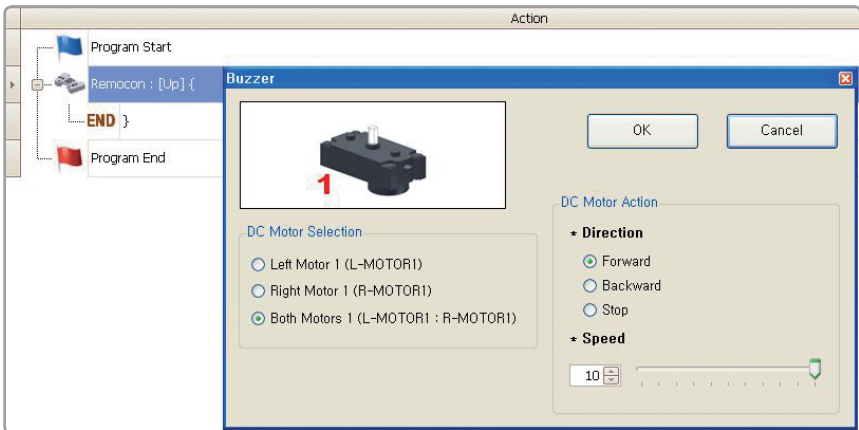


### C. Example 1 Remote Control

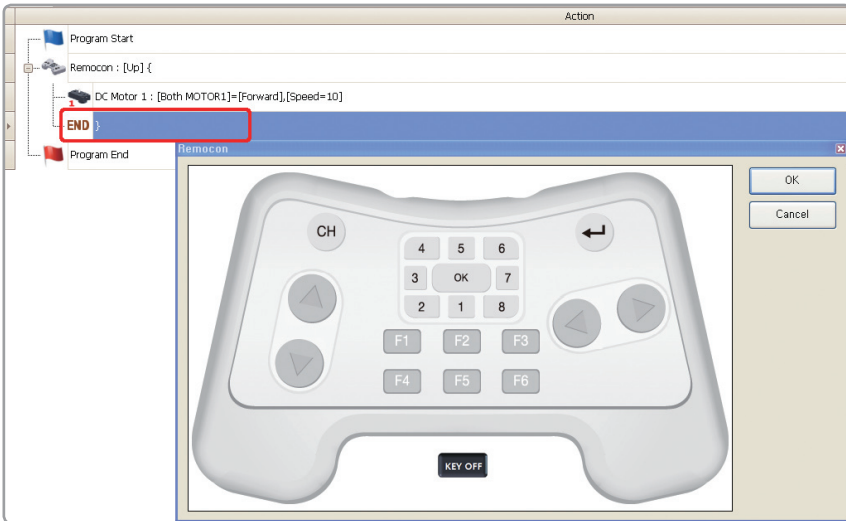
1. Double click on the 'remote control' at INPUT window. Click UP(▲) button of upper side.



2. If one double-clicks on the 'DC Motor1' icon at OUTPUT window, you will be able to see the picture like below.

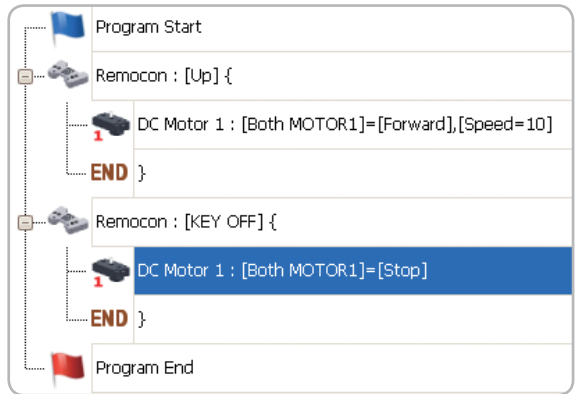


3. When using 'remote control' program, one should always input the "KEY OFF" state.



When pressing Remote Control Up KEY:  
Both motors will move forward at speed of 10 level.

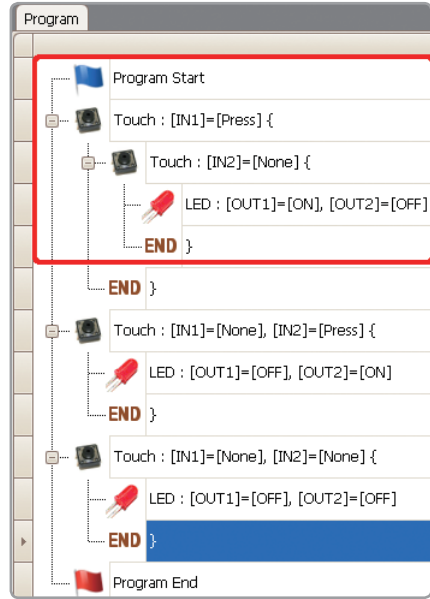
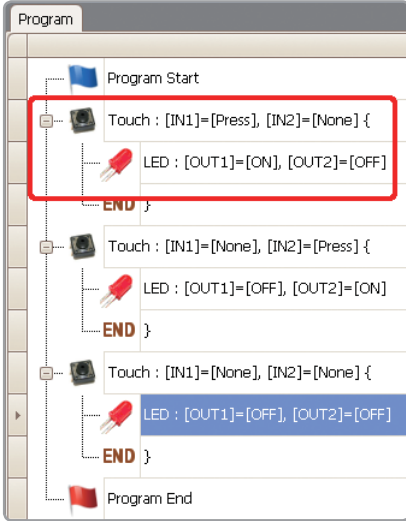
When not pressing Remote Control KEY :  
Both motors stop



**#TIP:**

You can copy, cut and paste identical input sensor and identical output board. Let's try to copy and paste it in any place you want. Because it will take too time for you to make the same sensor and the same output board continuously. (Copy: Ctrl +C, Cut: Ctrl +X, Paste: Ctrl+V>

D. Example 1. Multiple Inputs for identical sensor



D. Description of the upper pictures.

If 'Touch Sensor' of IN1 was pressed, LED of OUT1 turns on, LED of OUT2 turns off.

If 'Touch Sensor' of IN2 was pressed, LED of OUT1 turns off, LED of OUT2 turns on.

If 'Touch Sensor' of both IN1, IN2 not pressing, LEDs of OUT1, OUT2 turn off.

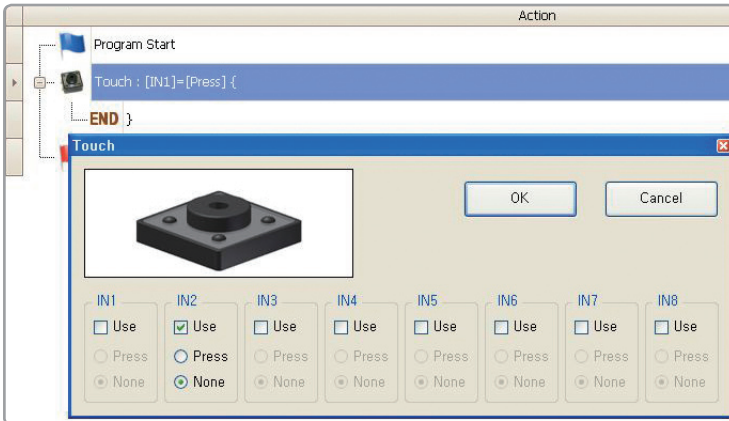
The comment of both red box parts(1,2) makes same actions.

When you perform multiple selections, you can add another sensor after selecting upper sensor of sensor that you want to add.

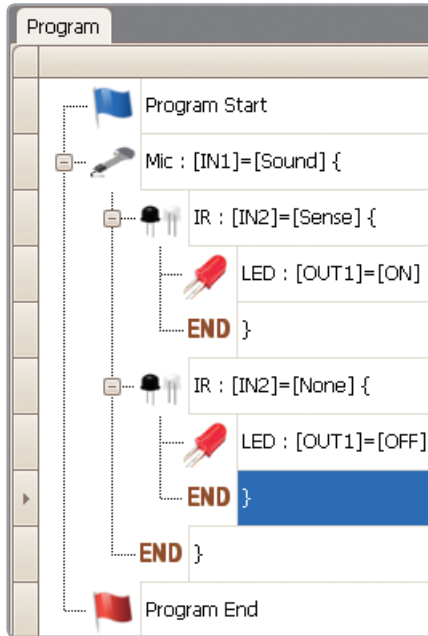
Same type of sensor : select at once(1)

select separation in the form of a tree (2)

When you choose the second way, first click the upper selected sensor, then select the sensors that you want to add.(Same way for other multiple sensors)



E. Example 2. Multiple Inputs for multiple sensors



D. Description of the upper pictures

If IR sensor of IN#2 receives a signal in situations when Mic sensor of IN#1 have already received signal, LED of OUT#1 turns on.

If IR sensor of IN#2 doesn't receive a signal in situations when Mic sensor of IN#1 have already received signal, LED of OUT#1 turns off.

IR sensor that is connected to IN #2 on the upper action judges the input signal only in situations where Mic sensor connected to IN#1 receive signal. This way of multiple selections are similar to example 1.

# HunaRobo Compiler - Output

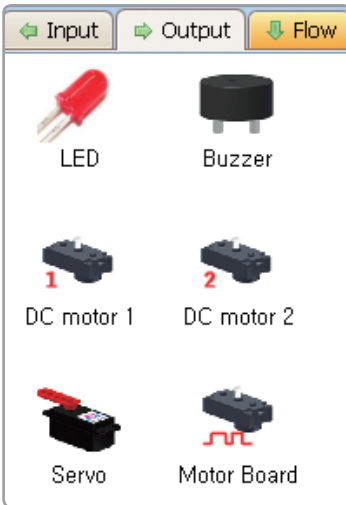
## Output Selection Window(OUTPUT)

- Select Output tab at selection window

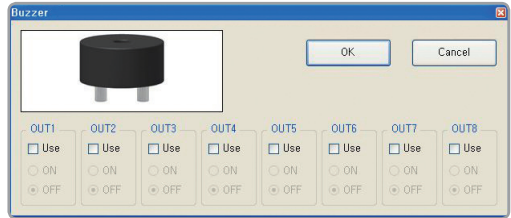
### A. LED, Buzzer

Check 'Use' button box depend on the kind of output board that is connected to OUTPUT port of mainboard, then perform program by inserting actions depending on each OUTPUT board.

<You can have multiple selections until OUT#1~OUT#8 to the maximum at once in HunaRobo Level 2, Level 3 >



<LED>



<Buzzer>

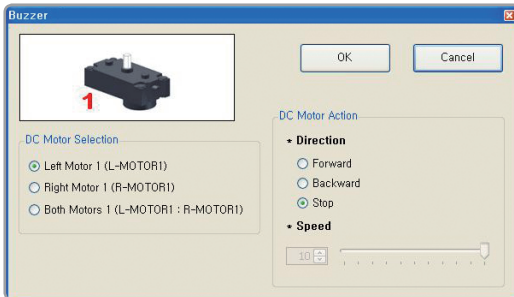
### B. DC Motor

You can control DC Motor. You can use DC Motor 1 in HunaRobo Level 2, 3.

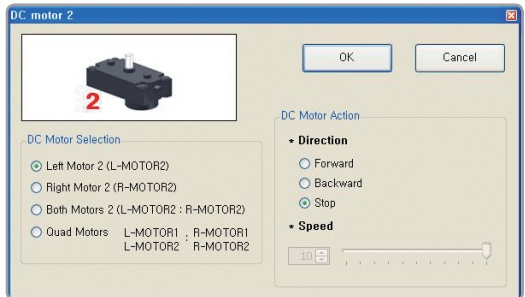
Optional Motor : Left Motor, Right Motor, Both Motors.

Optional Action: Forward, Backward, Stop

Optional Speed: 0~10< It is set basically at speeds of 10 level, the interval of speed is 1>



<DC Motor1>

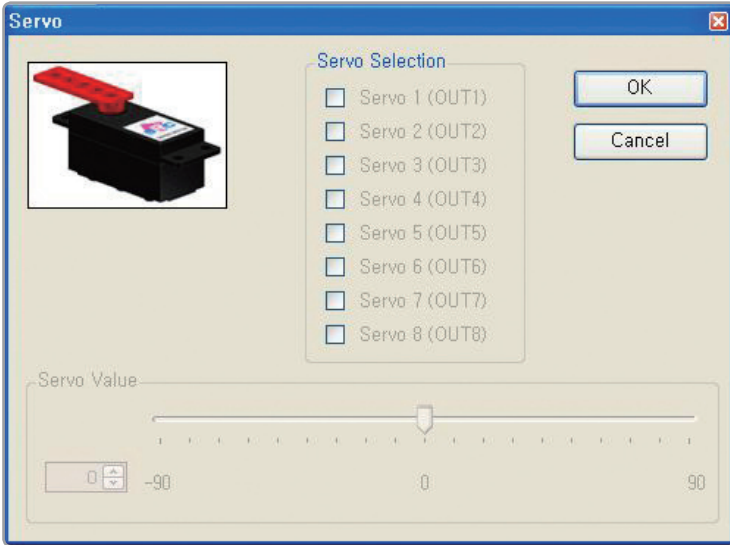


<DC Motor2>

**C. Servo Motor**

Optional port : OUT#1~OUT#8 can be selected, it can be selected multiple times.

Optional degree: It can be modified by -90degree~ 90degree angle with a 1 degree interval.

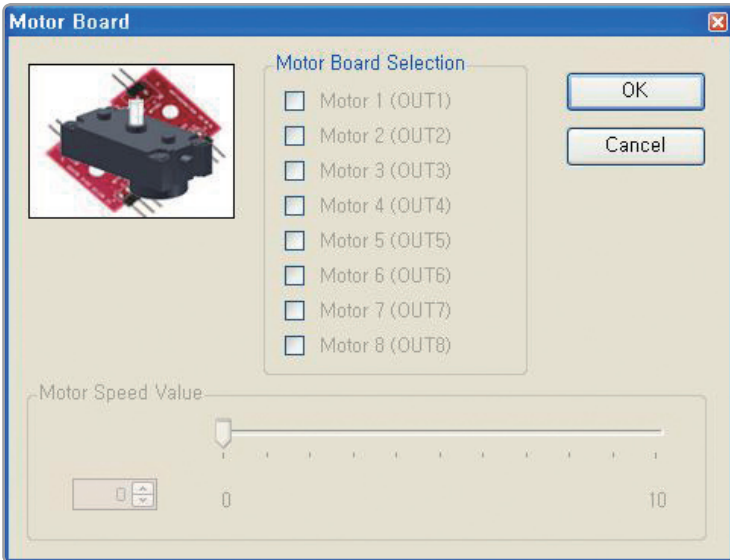


<Servo>

**D. Motor Board**

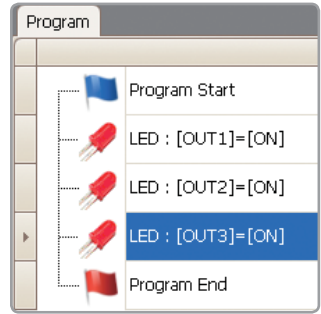
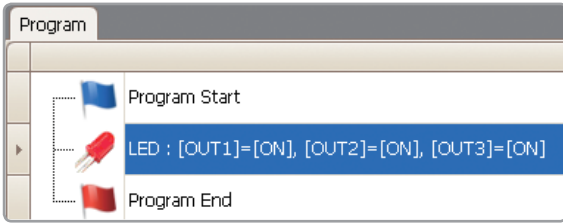
Optional port : OUT#1~OUT#8 can be selected, it can be selected multiple times.

Optional speed: 0~10 < It is set basically at speeds of 10 level, the interval of speed is 1>



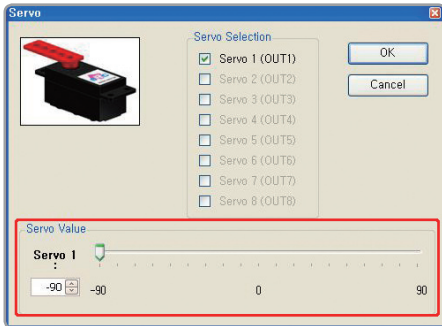
<Motor Board>

**E. Example 1. Multiple selections**

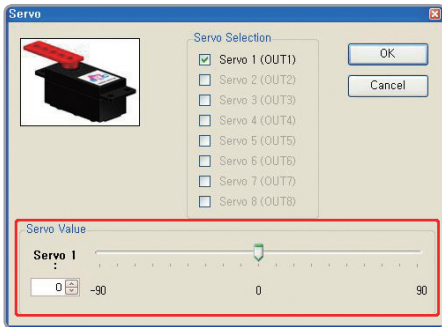


Both programs(1,2) perform same actions.  
 <LEDs connected to OUT1,OUT2, OUT3 turns on>

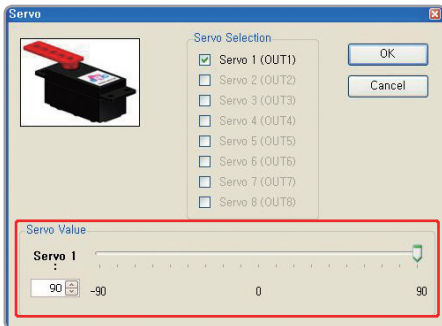
**F. Servo Motor Angle**



-90degrees



0degrees



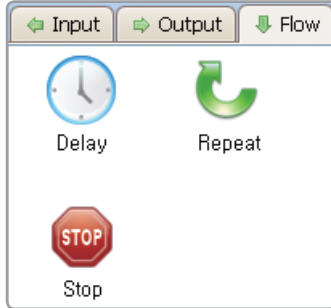
90degrees



HunaRobo Compiler - Flow

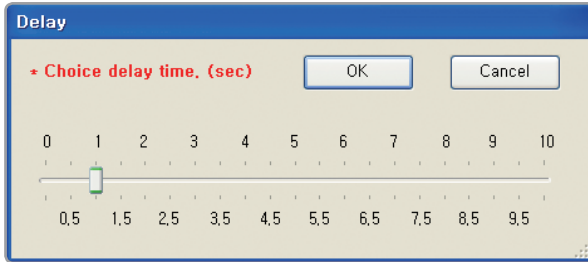
Flow Selection Window(Flow)

- Select Flow tab at selection window



A. Delay

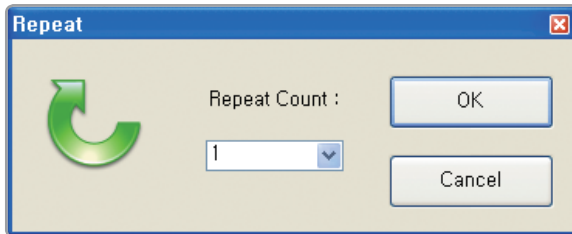
The actions which are already functioning before using function of "Delay" are restored during the time you set. It can set up at intervals of 0.5seconds within 0 Sec ~10 Seconds.



<Delay>

B. Repeat

This key's function is to repeat the same action following the number of "Repeat Count". Repeat Count can be selected between 1~100.



<Repeat>

C. Stop

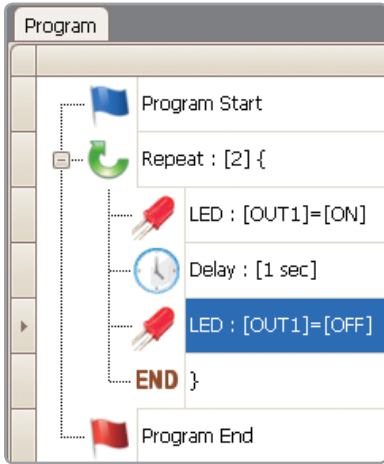
In case you press the "STOP" button, It will turn every program into start-up status and finish the programs.



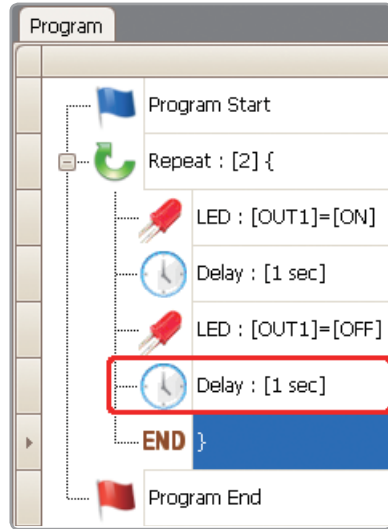


D. Example

The wrong example



The wrong example

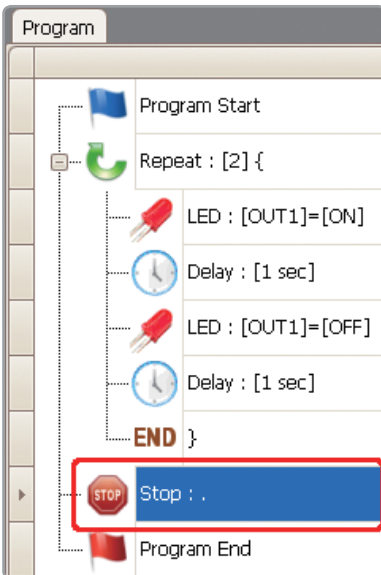


When you create a program where the LED connected to OUT#1 turns on and off for a second, the mistake may in most cases look like the example as illustrated.

The first mistake may be when LED is turned on, give "Delay" function. The second is when,not giving "Delay"function.

If you have a try to download a program like left picture, the LED will turn on continuously.

The good example

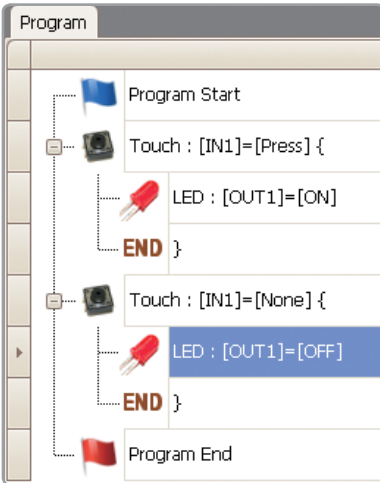


There is one more mistake you can make. Even if you insert "Delay" function suitably like upper side, when the "Repeat" function is completed, if you don't insert "Stop" function, it continues infinitely, so LED also flicker infinitely.

# HunaRobo Compiler - DOWNLOAD

## DOWNLOAD

- After the program has been completed, have a look at the way it should be downloaded.

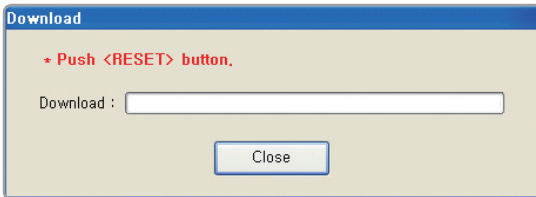


This left side program explain that If 'Touch sensor connected to IN#1 was pressed, LED of OUT#1 turns on. If not, LED of OUT#1 turns off.

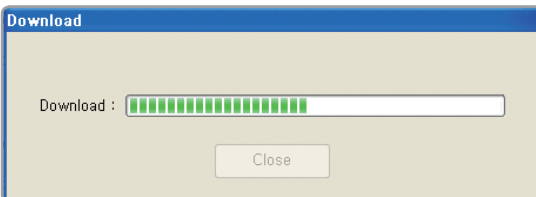
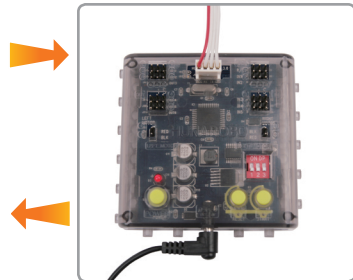
Let's test whether this action activates like it was programmed after it was downloaded as illustrated on the left.



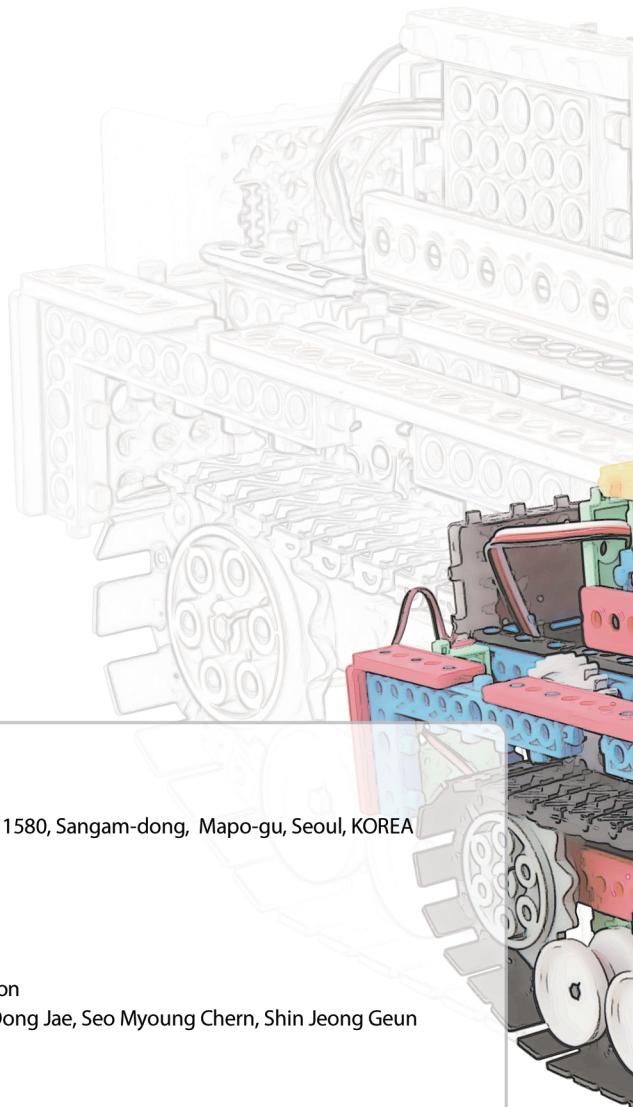
If you click on the 'Download' icon on the upper side menu bar, the following window will appear.



If the download window appears, push 'RESET' switch on the mainboard.



If download is completed like the picture on the left, you can start program by pushing 'RESET' switch of mainboard.



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