

# How to set up SimTools using Arduino

Edited by Pit 12/17/2014

**All credits to @bsft at XSimulator.net who did the original Guide.**

Before you will set up SimTools, please follow all instructions you will find under the link below if you are using SMC3 Code (I recommend this code if you are using Arduino):

<http://www.xsimulator.net/community/threads/smc3-arduino-3dof-motor-driver-and-windows-utilities.4957/>

If all is done, you can use this guide to get you going with Simtools 1.2.

Make sure you have any plugins saved separately in a different folder.

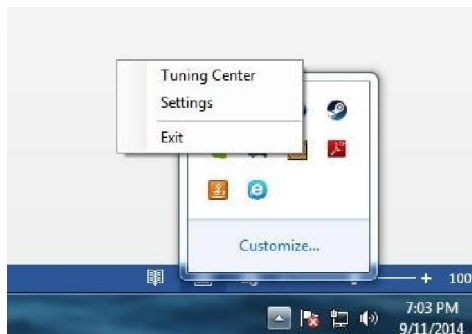
## **Install Simtools 1.2.**

Open the plugin updater, making sure any other simtools programs are closed first



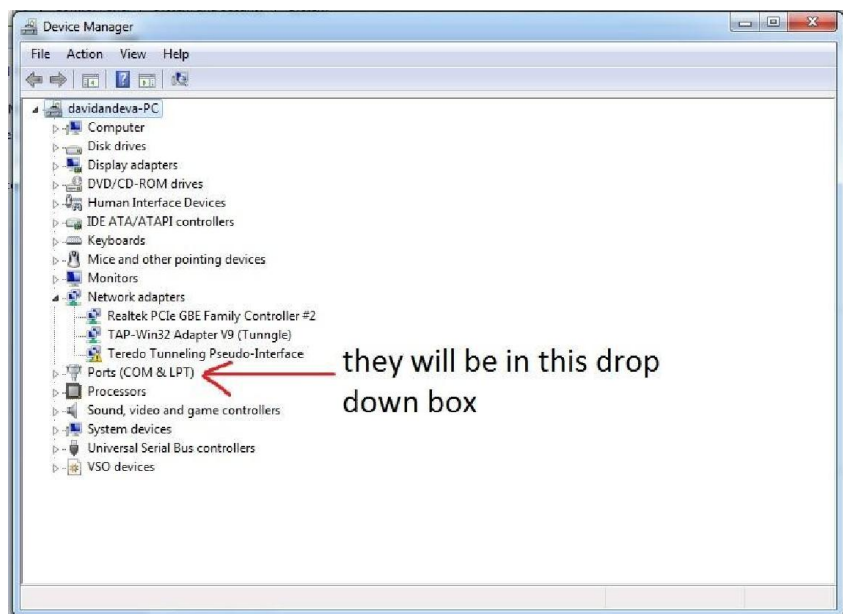
Drag and drop the game plugins form the folder to the updater.

Once that is done then start game engine and from the icon bar on bottom right hand corner, select "settings"



Choose the "settings" and open it up

Before you can setup SimTools, you have to find the comports. Go to computer/system properties/**device manager** and have a look to see where the Arduino is located



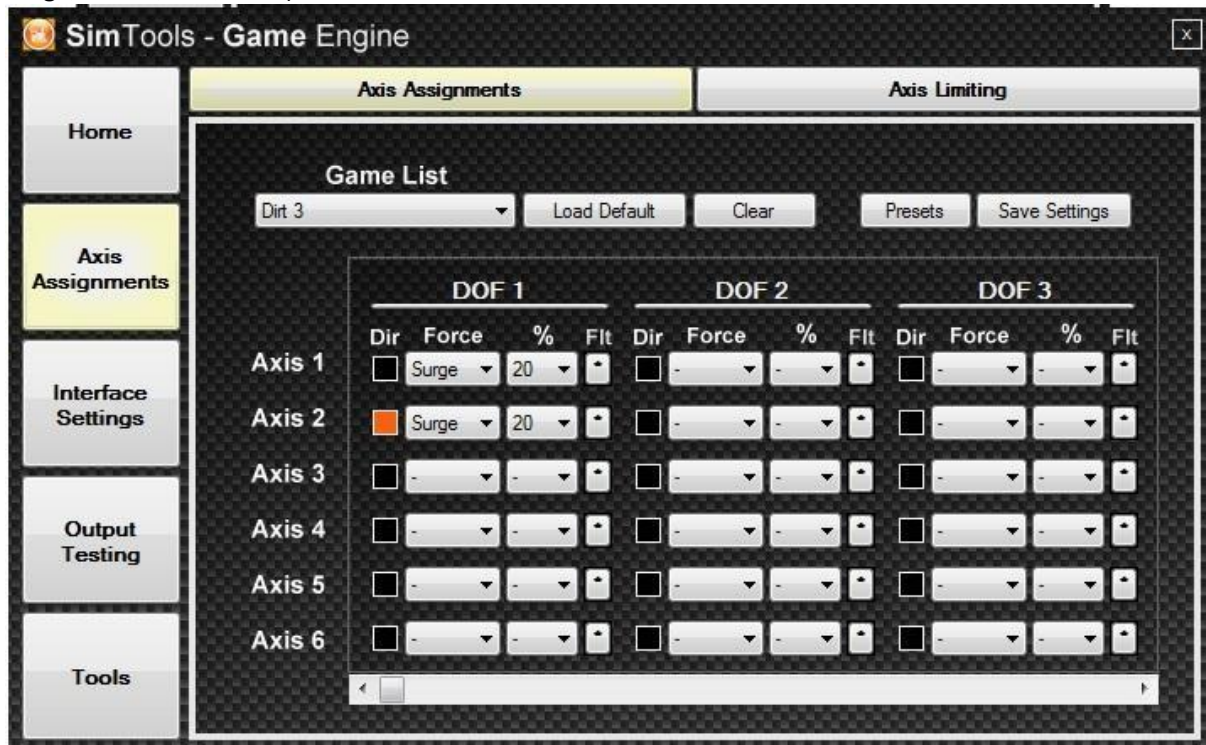
Then go back to **SimTools/Interface** settings. On the drop down list, choose SER and set your values. I am using axis interface 1. **Your com port may differ from the screenshot below:**



Click SAVE and that is done

Now you need to make a **profile for your game.**

Open the setting screen again and select axis assignments, select your game and for each DOF one axis (2DOF = 2 axis, 3DOF = 3 axis etc). Hint: You can assign more than one force to one axis (p. ex.: DOF1 = Surge, Heave, Roll, Pitch)

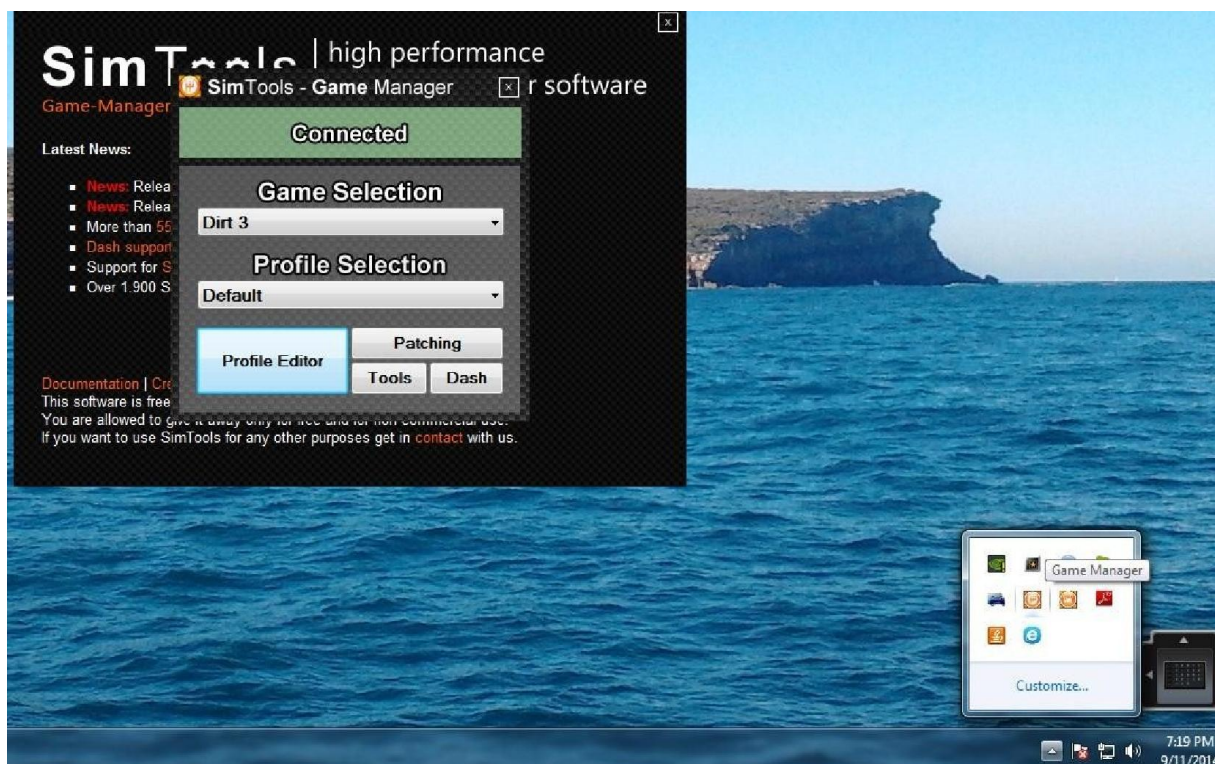


I have selected surge here and highlighted one box to change the direction of a motor. You will have to test in game to see which way it goes and which box you may or may not need to highlight

Set it at 20% .

Click save settings

Open the game manager and from the bottom corner double click so it shows up the main screen



You need to patch a game, select the game you have installed, select “patching”

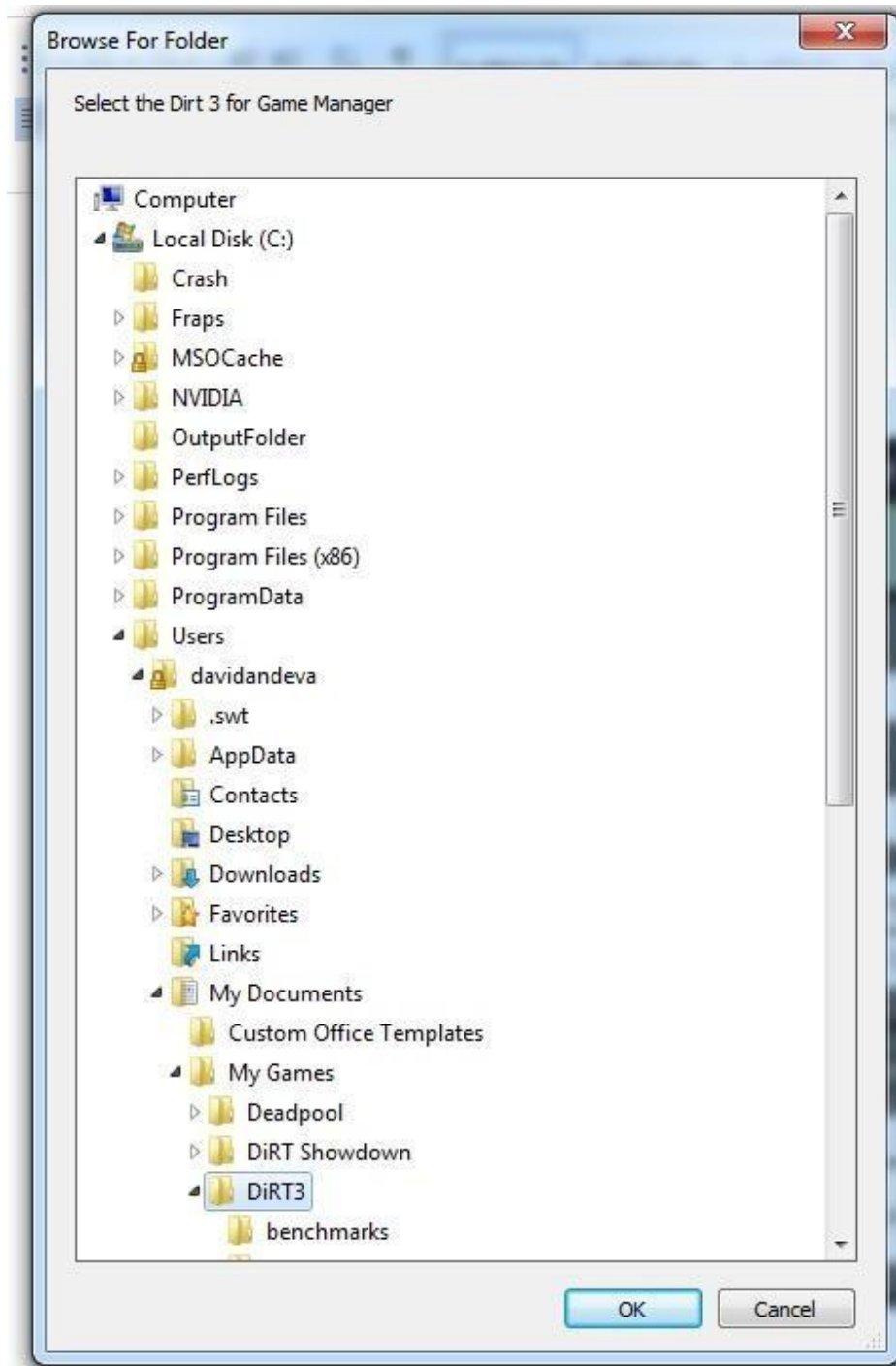




The "edit path" will show up, click that, then go find the game folder for the game.

I will use dirt3 for example

Dirt3 are usually localdisc/users/"yourname"/documents/mygames/dirt3 select that folder and patch game for motion.



If that's done right you should be able to click ok and then select "patch game"



Click patch game

It will ask if you would like to patch game for motion



Click OK and you will patch game for motion

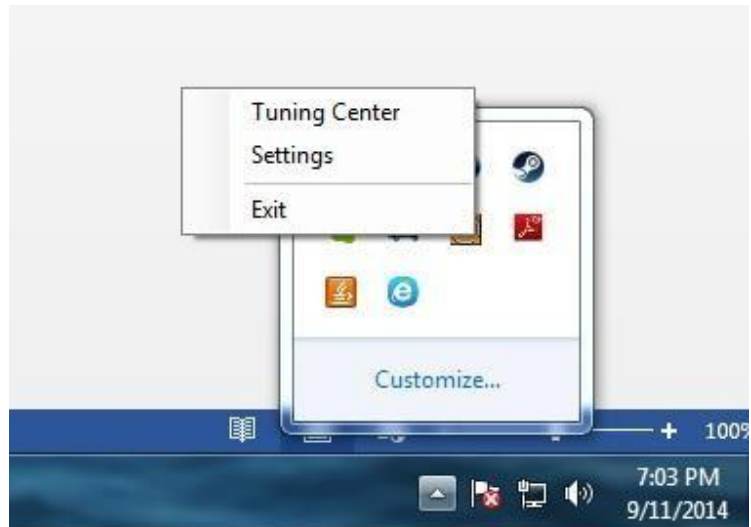
Now you can go into game and go for a spin, you will need to pause game and alt tab to minimize game screen to bring up game engine settings and tuning centre.

If the direction of the motors is wrong, you can either quit game completely and go into "settings" in game engine and change the direction of the highlighted box, then click save, go back into the game, test, rinse repeat till motor move right way.

Or you can use the method of pausing game, bringing up game manager icon thingy on bottom corner , exit it, motors will turn off, then go to game engine and change direction of highlighted box, click save, then restart game manager, and motor's will fire up again.

This method saves completely exiting game.





Now you can use the tuning centre,

Click tuning centre and a box like this will appear

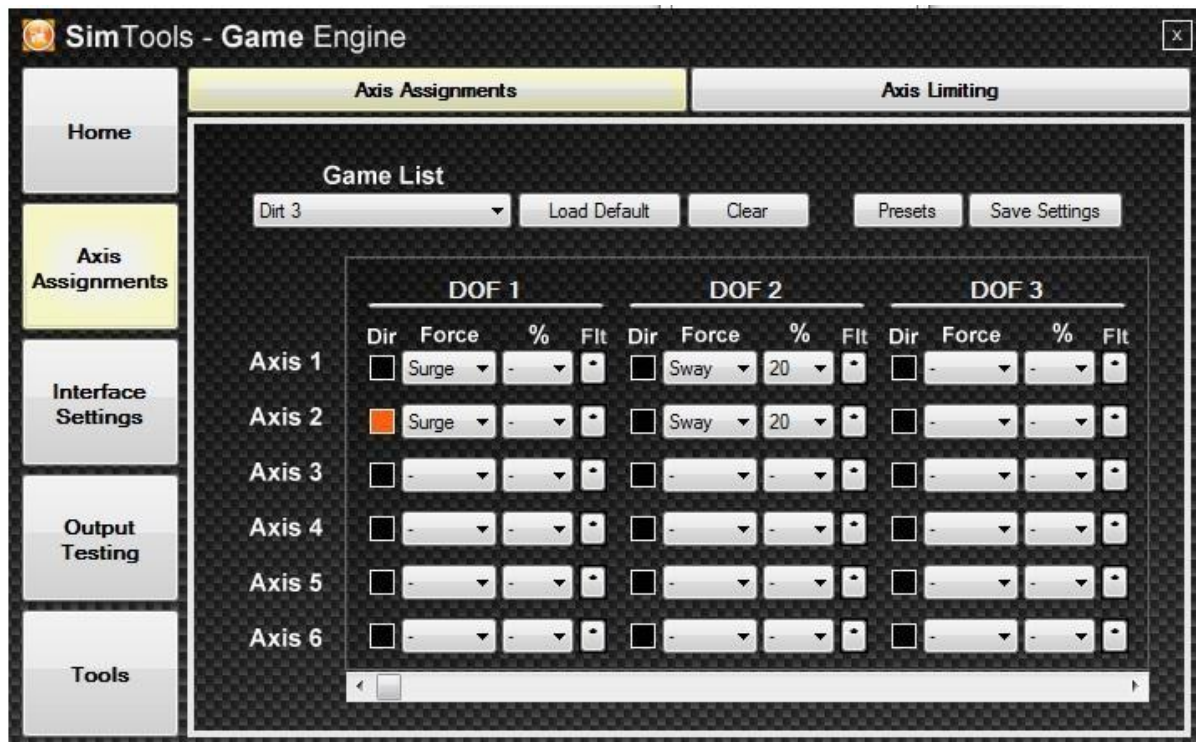
SimTools - Tuning Center									
Game Data - Input									
	Roll	Pitch	Heave	Yaw	Sway	Surge	Extra1	Extra2	Extra3
	0	0	0	0	0	0	0	0	0
Game Limits - Max/Min									
Max/Min Balance -	<input checked="" type="checkbox"/> Roll	<input checked="" type="checkbox"/> Pitch	<input checked="" type="checkbox"/> Heave	<input checked="" type="checkbox"/> Yaw	<input checked="" type="checkbox"/> Sway	<input checked="" type="checkbox"/> Surge	<input checked="" type="checkbox"/> Extra1	<input checked="" type="checkbox"/> Extra2	<input checked="" type="checkbox"/> Extra3
Max	0	0	0	0	0	0	0	0	0
Min	-0	-0	-0	-0	-0	-0	-0	-0	-0
Game Selected	-								
Capture Max Min					Reset		Save New Settings		

Nothing is showing in this because I don't have a sim connected to this PC. To change the number, pause the game, click "capture maxmin", then manually change the numbers in the force.

Example, if its surge, untick the box above it and use 2 numbers, smaller number for kick in gears, larger number for braking. You will have it tune it a bit till you find a number(s) you like.

Go back into game, test, rinse , repeat.

Once you have got that right, go back to "settings of game engine



Drop surge to 0 , then add sway in next DOF and set at 20% , then save settings, go back into game, check the direction is right , change if needed like before.

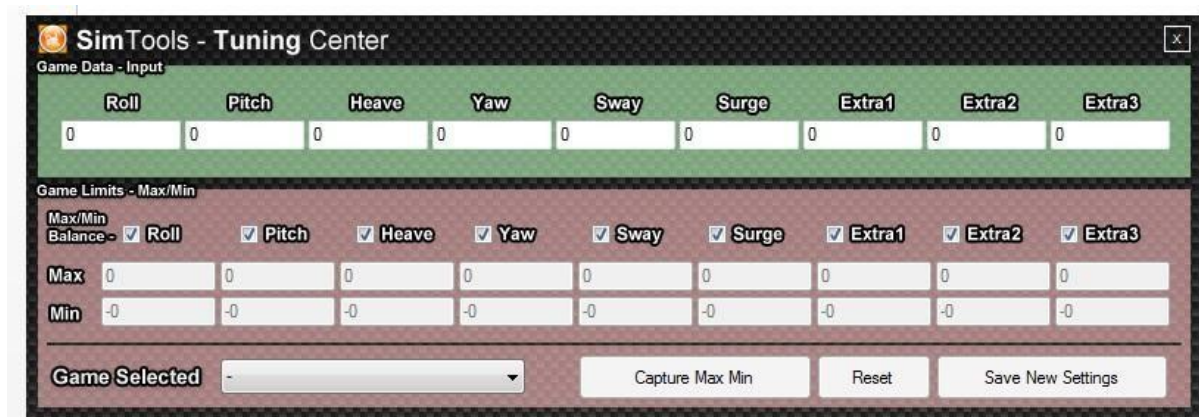
Copy/paste

If the direction of the motors is wrong, you can either quit game completely and go into “settings” in game engine and change the direction of the highlighted box, then click save, go back into the game, test, rinse repeat till motor move right way.

Or you can use the method of pausing game, bringing up game manager icon thingy on bottom corner , exit it, motors will turn off, then go to game engine and change direction of highlighted box, click save, then restart game manager, and motor’s will fire up again.

This method saves completely exiting game.

Once is moving right, use the tuning centre in game to change the number to a force of your liking. Keep the box ticked about sway and the number stay even



Go back into a game, rinse repeat.

Do this method with as many forces as you like. But do each one at a time

I suggest sway , surge , heave , pitch, roll.

A note , with heave, don't be surprised if you end up with a small number, like 0.5 or 0.05 depending on game, and also note that you may need to reduce the percentage of the force in the DOF you put it under.

With heave, a small number usually gives finer road vibrations and gravel feeling, with it being sort of smooth on tar. That's for rally games, but with say GTR2, Race07, you generally get a rattling of sorts on the road track.

Roll, to set roll, drive off into a ditch, slowly to see if the car leans the right way. Change the direction of the motor to suit.

Pitch is going up and down hill, so take it easy until you get a good number.

Once you get sway right, do the same as before and drop it to 0, add next force in DOF 3, and do the same, set at 20 % and fiddle with numbers for that force in the tuning centre.

Once you have set the forces you like, then go back into game engine and bring up the settings, axis assignments and bring the rest up to 20%.

The go back into game and either make finer adjustments to tuning centre number or change the force in axis assignments up or down a percentage or 2.

Heres a tip, once you have saved all the directions and DOFs and forces in the game engine , for the next game, just bring up , example dirt3 , then from the drop down list select the next game, say grid, and save the settings again. All the plugins should move in the same direction and there should be no real need to change direction, unless they stuffed the plugin. I think race 07 is all reversed.

Then go through the process of either doing each individual force or tuning centre number, or hope for the best and just fiddle with tuning centre for the lot all going at once.

I hope this makes some sense.

