QuickStart Guide for SimTools v3

Following each of the steps below will help you get started with a basic functional setup of SimTools v3. This basic setup will help you on your way to making your simulator come to life.

A LITTLE ABOUT SIMTOOLS

SimTools is a tool designed to get motion simulators up and running as quickly as possible, while still giving the user all of the customizations and flexibility they may need or require.

One really cool thing SimTools allows you to do is “Live Tuning of Profiles”! Create a profile for a game, and then tune the profile to perfection while playing the game! You do not have to stop the game to make changes to the profile currently being used.

PLEASE NOTE – If you purchased your simulator from a company that supplied you with a custom SimTools installation, then you can use the file for installation and it will completely set you up as needed. If no file was supplied, then you can check to see if the company has their own company repo. If they do, you can simply run their setup plugin from the repo to get completely setup.

If a company has their own repo, then the game plugins they have available from their repo should have all the configurations needed to immediately install the plugin and play the game with motion. That will take care of steps five, six and seven below. Once the game plugin is installed, you are immediately ready to play the game with motion.

LET’S GET STARTED:

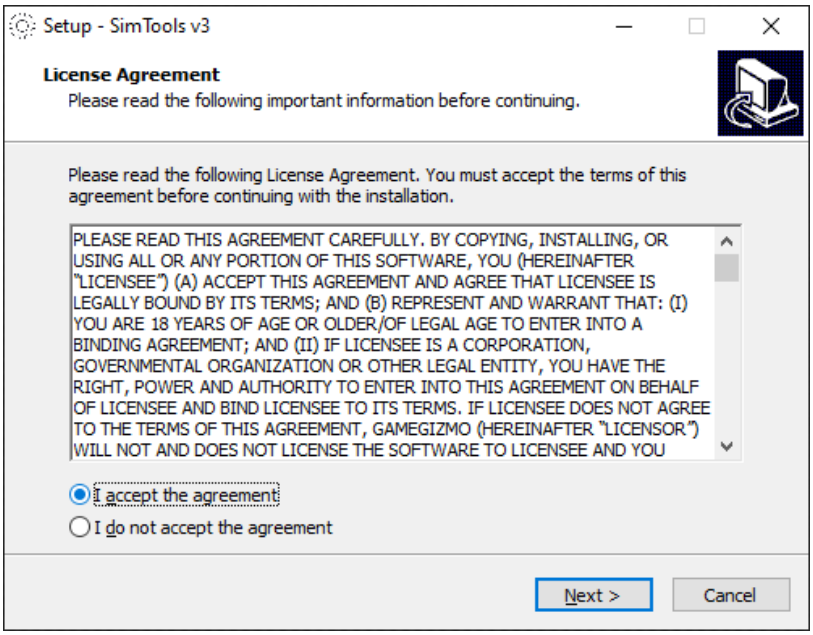
There are eight steps required to get you up and running in SimTools v3. All of the steps are outlined below.

Step 1 – Installation
Step 2 – Registration (Optional)
Step 3 – Interface Setup
Step 4 – Install an Axis Plugin
Step 5 – Install a Game Plugin
Step 6 – Configure Axis Assignments
Step 7 – Adjusting Max/Min Settings
Step 8 – Setting a Launch Path (If required)

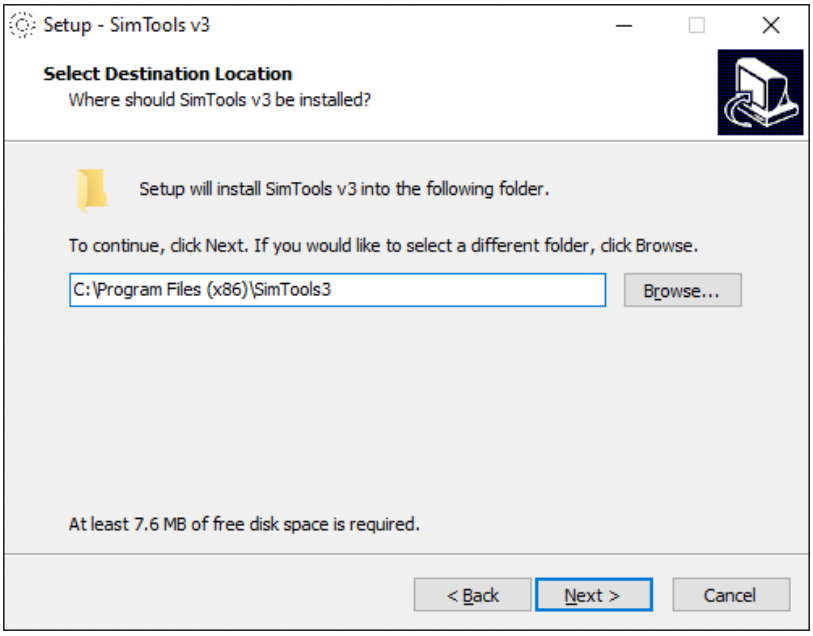
Step 1) Installation - You can download the SimTools Installer directly from our website here: **https://simtools.us/downloads-links/.** The SimTools installer will always grab the latest version of SimTools for the installation.

NOTE: SimTools has the ability to capture the telemetry data we need from the memory space of a running game. Because of this ability, it may wrongly get detected as a problem by some antiviruses. If you run into any issues, please add SimTools as an exception to your antivirus.

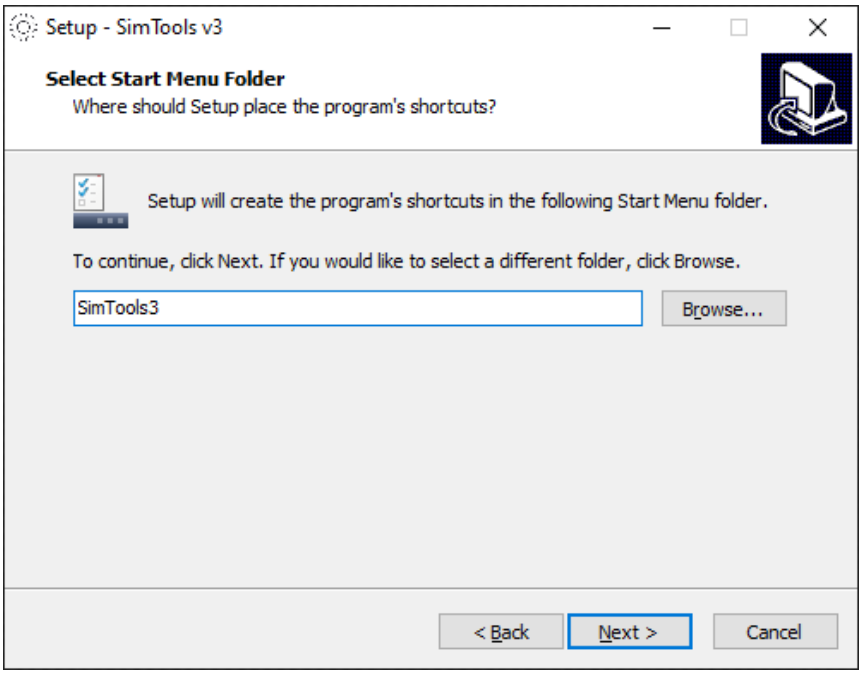
You can launch the SimTools installer by double clicking the file you downloaded. Read through the license agreement, accept the agreement and click “Next”.



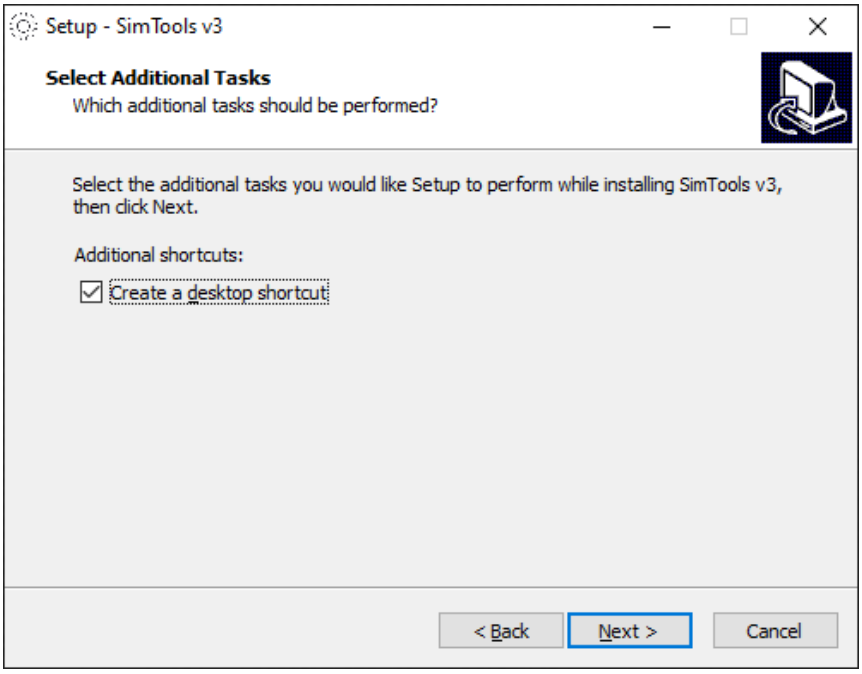
Use the default installation folder, or select where to install SimTools by clicking “Browse” and then click “Next”.



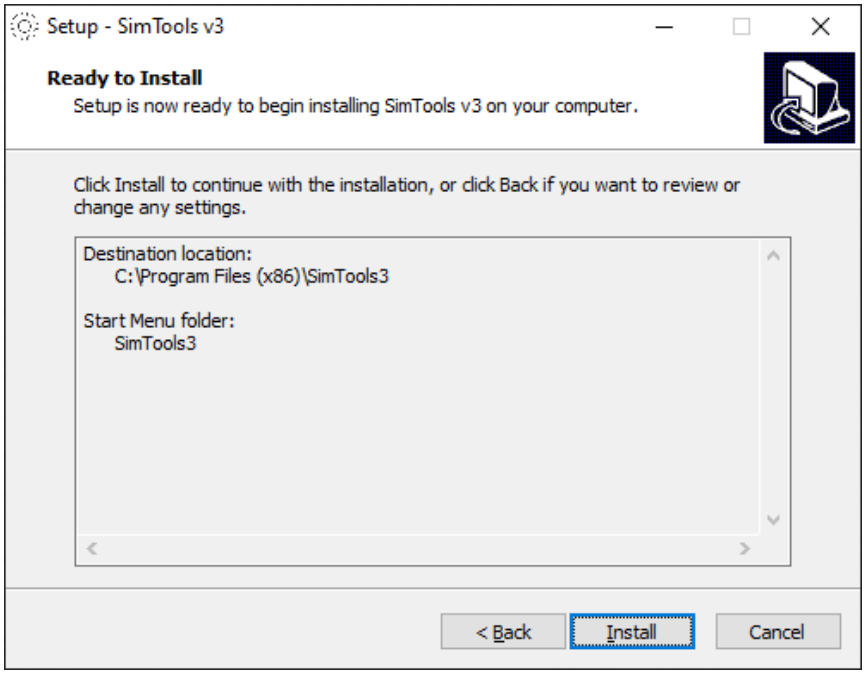
Use the default Start Menu folder, or select a Start Menu folder to install the SimTools shortcuts in by clicking “Browse” and then click “Next”.



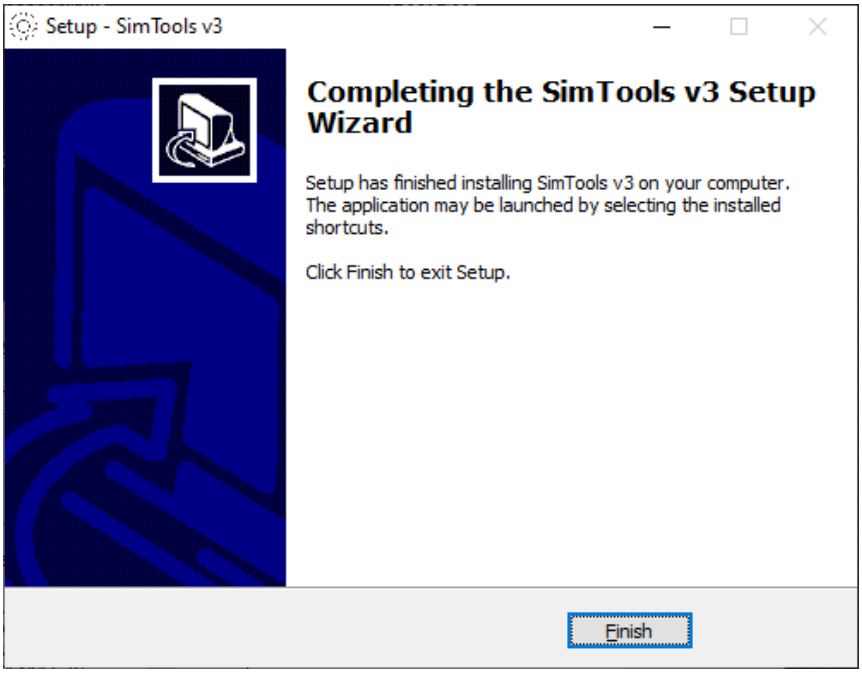
Choose to add a shortcut to your desktop or not, and then click “Next”.



Click “Install” when you are ready to proceed with the installation of SimTools.



Click finish when the installation is complete.

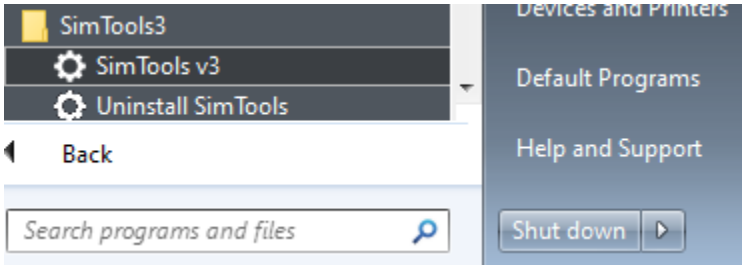


Step 2) Registration - SimTools will run in "Demo" mode until a valid license has been registered. The plugin for Live for Speed is fully operational for testing while SimTools is in demo mode. The demo of Live for Speed will also work for testing SimTools, so you do not need to purchase either to for testing. You can find more information and download Live for Speed at **https://www.lfs.net/**

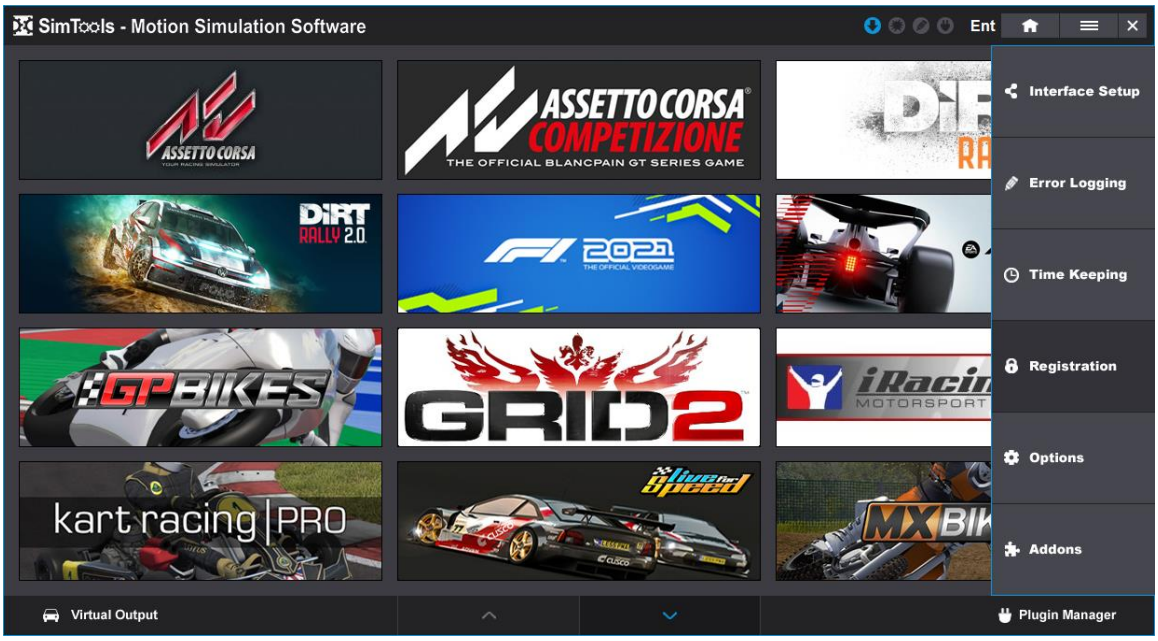
You can learn more about the different SimTools licenses and prices at **https://simtools.us/license/**

Here is how to register SimTools v3.

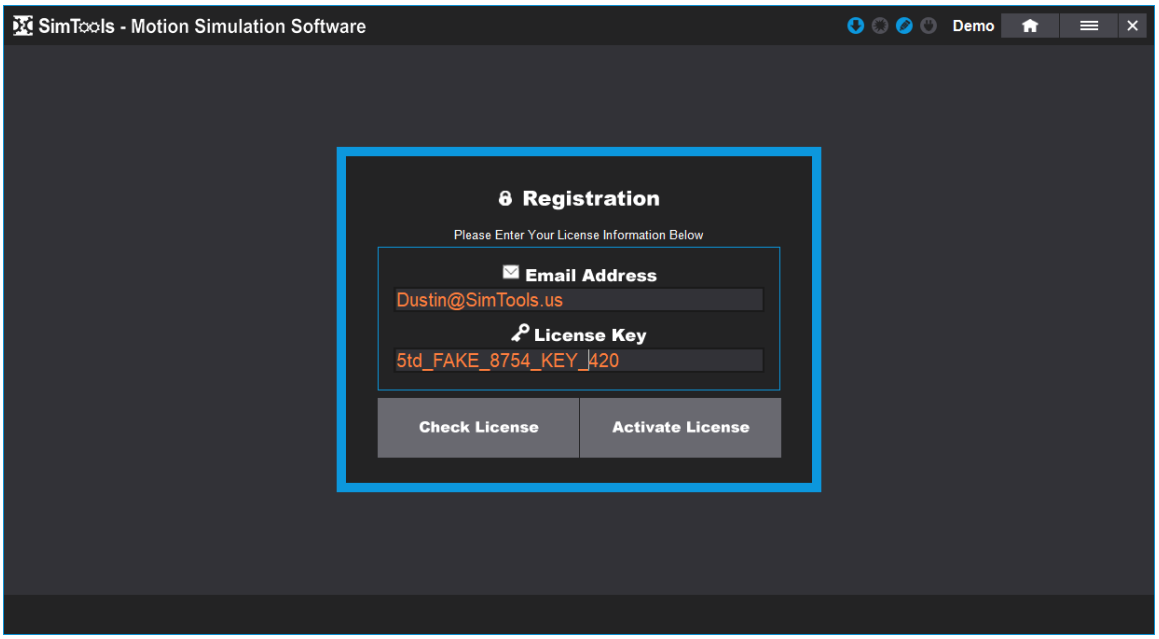
Launch "SimTools v3". You can find the default location by navigating to Start → All Programs → SimTools3 → SimTools v3.



Click the main menu button on the top right of the GUI and select Registration from the Main Menu.



Now enter the email address you purchased your license with into the Email Address text box, and enter the license you received into the License Key text box. Then Click “Activate License” to activate your license.



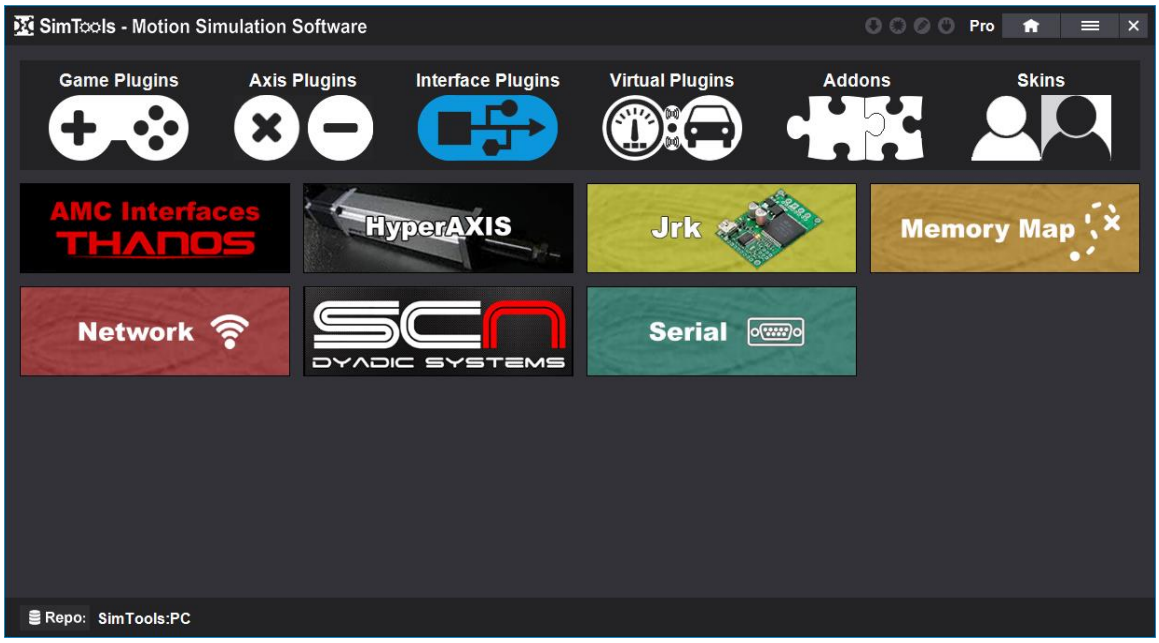
A message will appear confirming your license has been activated.

Step 3) Interface Setup – This is where you tell SimTools how to communicate with your hardware. Interface Plugins allow SimTools to communicate with your hardware. This allows SimTools to send commands to move your hardware. You should install an interface plugin and test it for movement before you move on.

You can access all available public plugins by click on the Plugin Manager button on the bottom right of the home screen.

Once in the SimTools public PC repo or the repo associated with your simulator, select the Interface Plugins icon. Simply hover over the Interface plugin you wish to install, and then click the banner to proceed with the installation. Be sure to click “Yes” when prompted for installation.

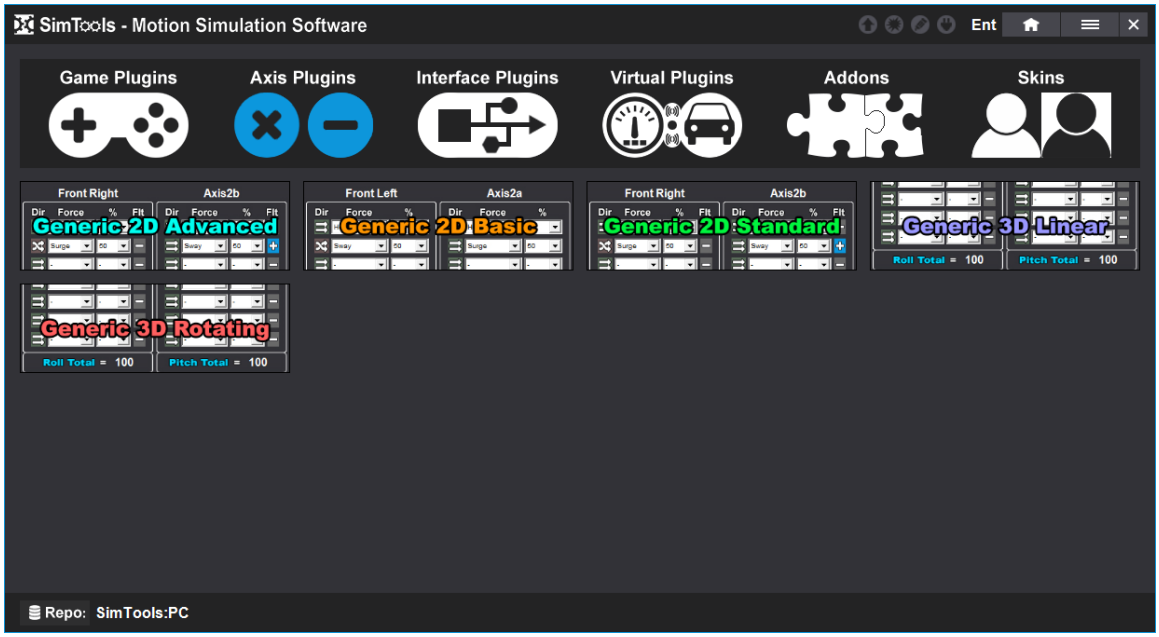
The Interface plugin you use, will depend on the hardware you have to control your simulator.



Once installed, you need to go to the Main Menu and select Interface Setup and configure your interface. Make sure to Save and then Test your interface settings before moving on to the next step.

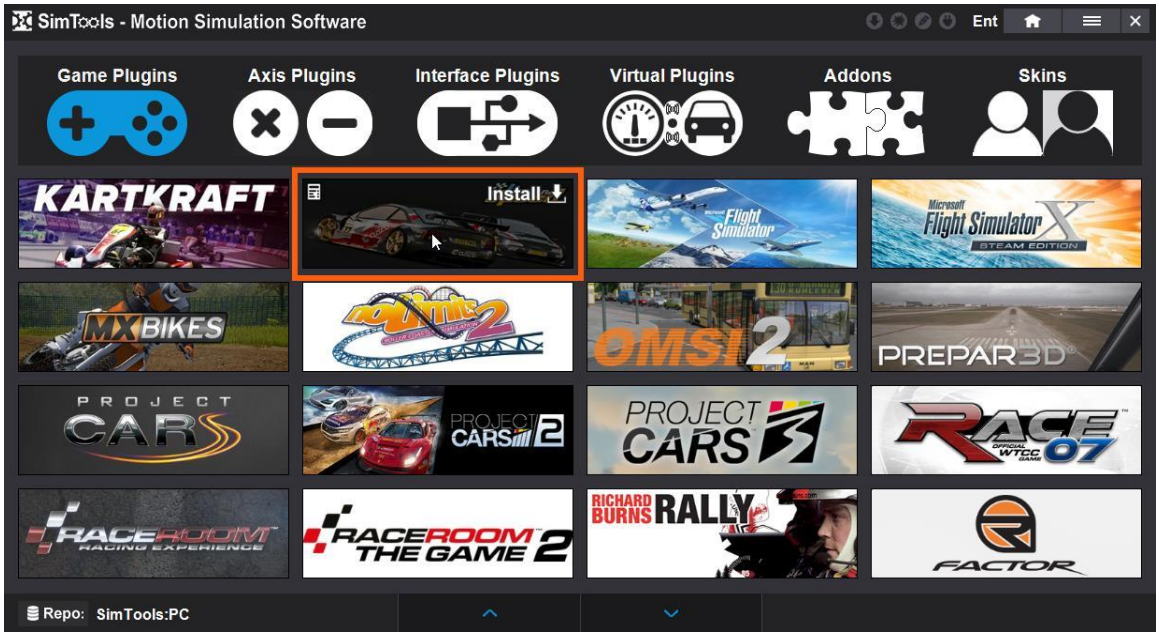
Step 4) Install an Axis Plugin – Install an Axis Assignments Plugin so you can configure the correct output for the simulator. Axis Plugins allow you to configure the output from any game into logical motion for your simulator.

You can access the available public interface plugins by going to the Plugin Manager and selecting the Axis Plugins icon. You can install plugins by hovering over the plugin banner and clicking on it to install.

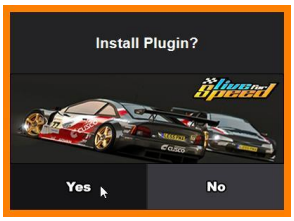


If you have a Stewart Platform, install the Generic 3D Linear or Rotation plugin depending on the type of simulator you have. For all other simulator types, we suggest installing the Generic 2D Standard plugin. You will configure the plugin a bit later, for now, simply install the plugin.

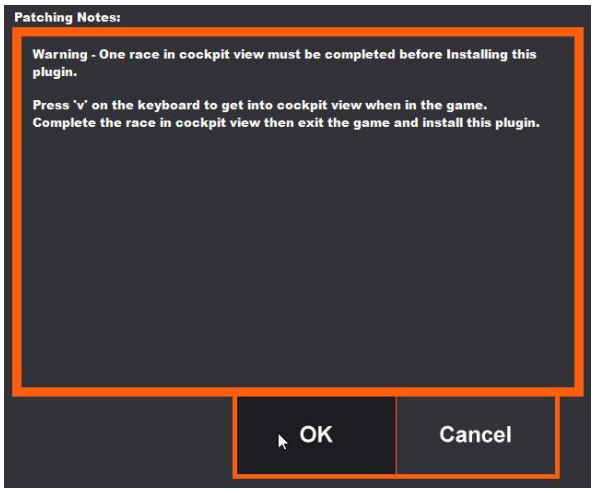
Step 5) Install a Game Plugin – Game Plugins allow SimTools to communicate with a game. You can access the available public game plugins by going to the Plugin Manager and selecting the Game Plugins icon. You can install plugins by hovering over the plugin banner and clicking on it to install.



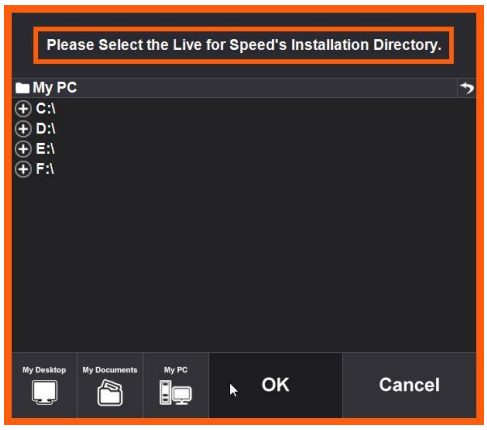
Click “Yes” when prompted.



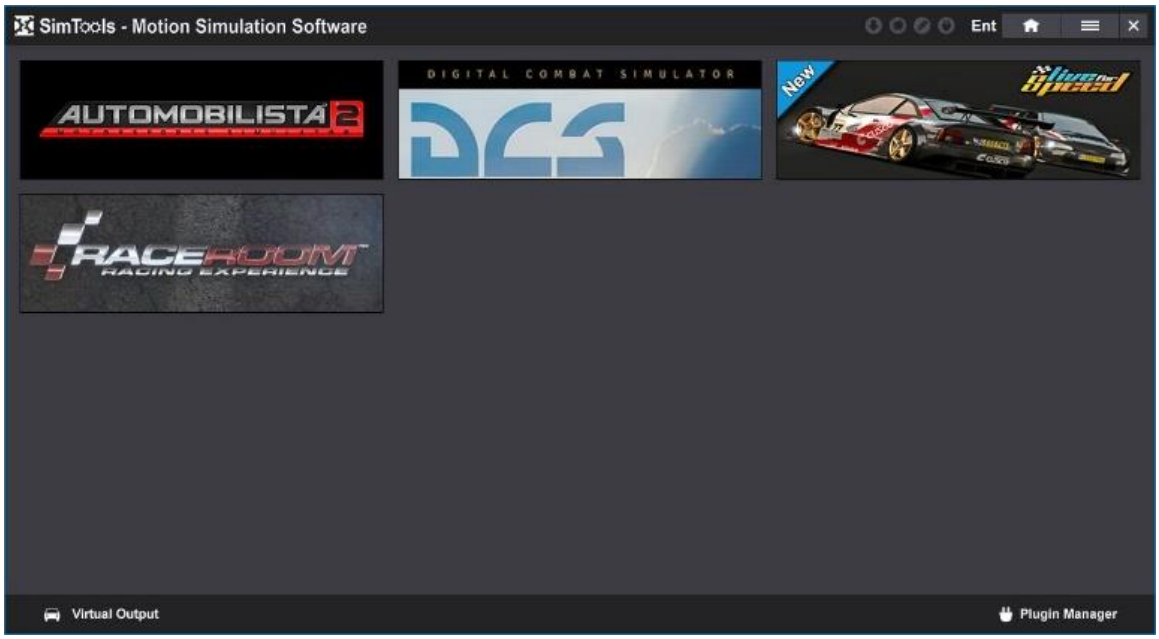
Some plugins have installation instructions and some do not. Read all the popups during installation and follow the directions. Live for Speed requires you to drive around the track in the cockpit view of a car, and then exit the game before you install the plugin. Doing this creates the files needed to patch the game.



Our copy of Live for Speed also requires me to identify the game’s installation folder containing the LFS.exe, so it can launch the game. Also note that suggested folder locations will appear in the top area of Installation Directory Popup if there are any available, so make sure to check. LFS does not, but some games do.

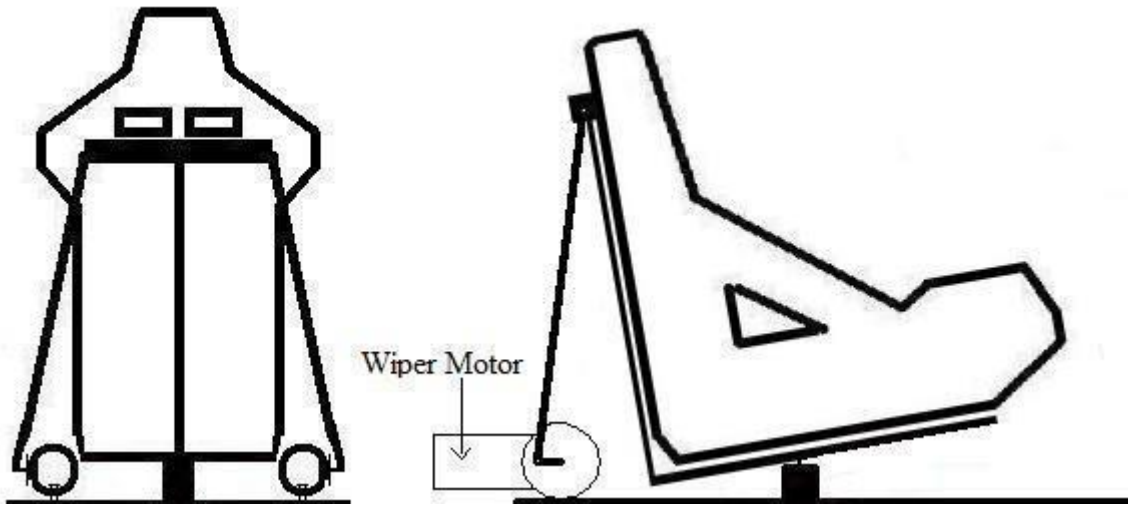


Your installed plugin will show up on your SimTools Home screen with “New” in the top left corner.



Step 6) Configure Axis Assignments – Below is a basic example of how to configure a two degrees of freedom simulator. More information about any specific axis plugin can be found in the main manual.

Example 1 - The simulator below uses two motors to power the chair from the rear corners. It will provide for a 2 DOF simulator including roll (leaning side to side) and pitch (leaning front to back). Each motor gets assigned half of its total movement to roll and half of its total movement to pitch.



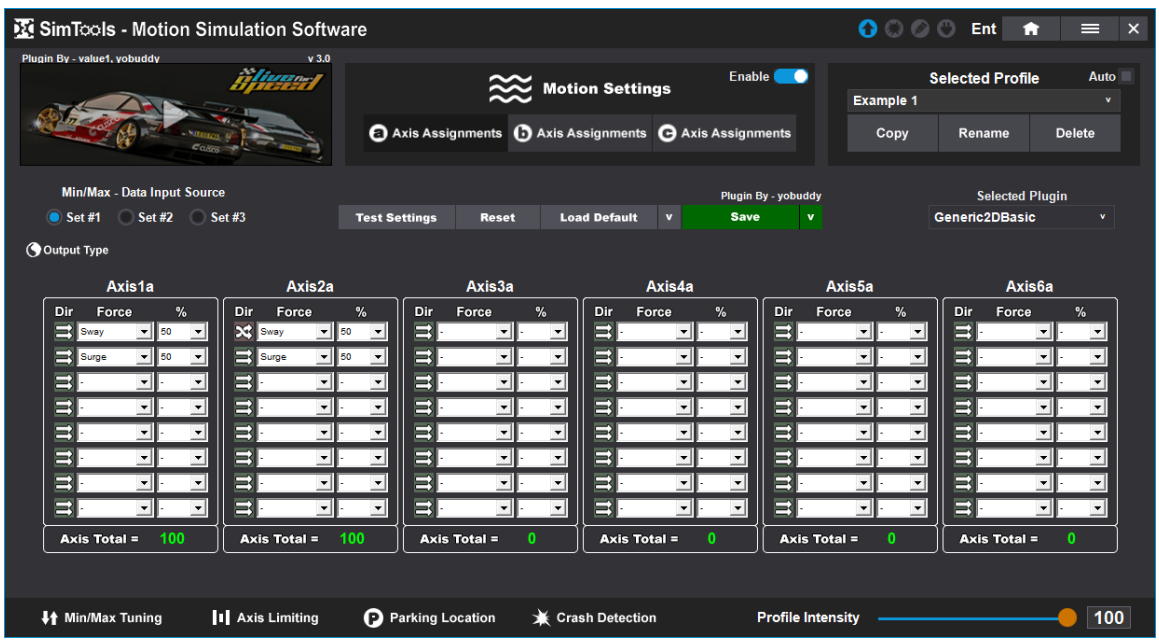
While the simulator itself can pitch and roll, we want to drive these actions from the G-Forces from a game. Therefore, we will drive the pitch of the simulator with the surge input from a game, and we will drive the roll of the simulator with the sway input from a game. Configuring the simulator this way will cause the simulator to lean back when stepping on the gas, and lean forward when braking. The simulator should also lean away from corners when you turn.

The picture below shows the axis assignment needed to move the example simulator pictured above.

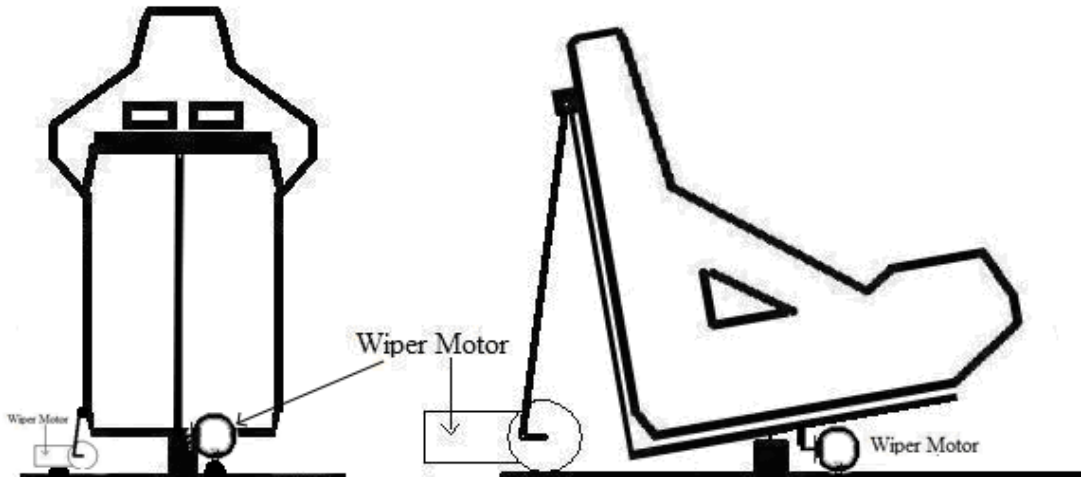
Axis1a is assigned to Sway at 50% and Surge at 50%. Axis2a is assigned to Sway at 50% with the “Dir” option selected to reverse the direction of output, and Surge at 50%.

Half of each axis will respond to Sway, with the axes responding in opposite directions to one another. This gives us our roll output by moving our example simulator from side to side.

The other half of each axis will respond to Surge, with the axes responding in unison to one another. This gives us our pitch output by tipping the example simulator forward and back.

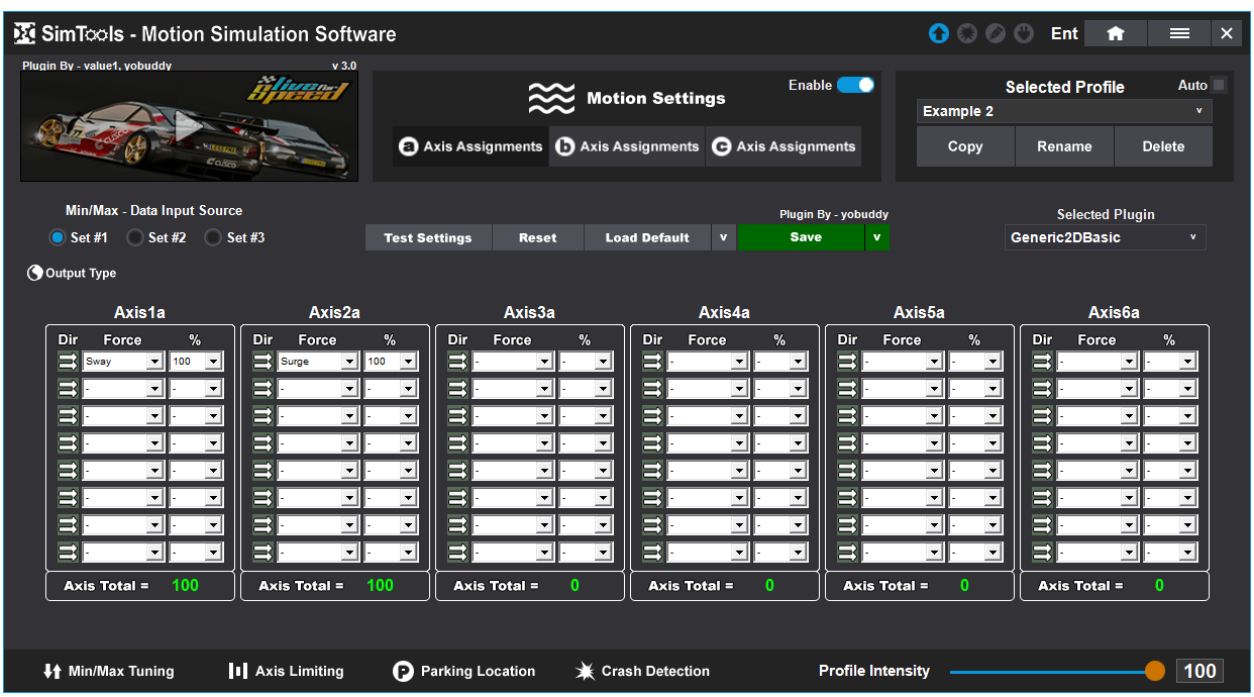


Example 2 - The simulator below uses two motors to power the motion simulator. One in the rear and one on the side. It will provide for a 2 DOF simulator including roll (leaning side to side) and pitch (leaning front to back).



While the simulator itself can pitch and roll, we want to drive these actions from the G-Forces from a game. Therefore, we will drive the pitch of the simulator with the surge input from a game, and we will drive the roll of the simulator with the sway input from a game. Configuring the simulator this way will cause the simulator to lean back when stepping on the gas, and lean forward when braking. The simulator should also lean away from corners when you turn.

The picture below shows the axis assignment needed to move the example simulator pictured above. Axis1a is assigned to Sway at 100%. Axis2a is assigned to Surge at 100%. Each axis is only responsible for one force, so we suggest using the entire axis available for each one.



In many cases, it is easiest to setup one DOF at a time. Once the DOF is configured, you can click the “Test Settings” button and test that the new settings work the way they should. In both of the examples above, we suggest configuring and testing Surge, and then configuring and testing Sway.

Once you are all configured, you are ready to test in a game. When you run a game and a motion output feels backwards like Surge for example, then click the “Dir” direction boxes for all the Surge settings. This will flip the output when the game is running, and correct the issue.

Step 7) Tuning Max/Min Values - This ensures that the motion you output to your simulator is the best it can be. The tuning window allows you to set the Max and Min values that will be used by SimTools to calculate how much of the axis is used. It does this by comparing the incoming value with either the Max or the Min value, and then calculates the correct percentage needed for output.

Each game plugin allows for up to 12 DOF’s (degree of force) to be sent and used for output to your simulator. Roll, Pitch, Heave, Yaw, Sway, Surge, Extra1, Extra2, Extra3, Extra4, Extra5 and Extra6. All DOF’s that are used in a game plugin should have a corresponding Max/Min value associated with it.

Increasing the Min/Max values to higher numbers will result in less movement. Meaning it will seldom reach its max or min value resulting in less overall movement, but will have more range for output. Decreasing the Max/Min values and you end up reaching those Max/Min settings a lot quicker. This results in faster and snapper movements, but with less overall range for output.

To capture new Max/Min values with the Max/Min Tuning Center, start the game you want to capture new Max/Min limits for. We will use LFS in this example.

Reference the image directly above for the following:

1. Press the **Capture Max Min** button.
2. Press the **Reset** button. This clears the current settings.
3. Drive around the track carefully and try not to bump walls or hit anything that will skew the results. You should see the new Max/Min values being captured for each value.
4. Click pause on the game, if you want to alter any of the setting by hand now is the time to do it.
5. When you are happy with your new settings click the **Save** button. And the new Max Min will be applied live while the game is running.
6. Press **Stop** if you are finished altering the Max/Min limits. The Capture button from step one will turn into the Stop button.

If at any time you feel like you want to start over, uninstall the plugin and reinstall the original plugin again from the Plugin Manager.

Step 8) Setting a Launch Path – You may find that some game plugins do not set a launch path for a given game plugin, or the path is setup for a different version of the game than what you have installed. To update a launch path for any game plugin, drag and drop the game's exe or shortcut onto the banner for that game plugin.