



## Formula Hybrid® 2024

*Illegal acquisition, extraction and file distribution are not permitted for this or any of our products and are destroying the sim racing community and its developers. Members engaging in these activities do not stand for the good of the community we have been proud members of for the last decade, and only contribute to the demise of all legitimate content developers. Scratch-made vehicles like this take thousands of hours and dollars to produce by 5-10 people. Without the support, there is no way a car of this high-level could ever exist.*

This document will describe very important aspects of the vehicle you have purchased including installation, features, getting started, options and settings to look out for, and more. It is advised you review this document.

You can get our SimHub dashboards [here](#).

[Car Installation Instructions](#)

**MUST PERFORM A FULL MANUAL INSTALLATION.**

Install the separate RSS Settings package first. Then;

Copy the '**content**' folder in this archive to your Assetto Corsa installation directory. Usually:

`c:\Program Files (x86)\Steam\steamapps\common\assetto corsa`

This will ensure you have the full package installed including the driver, application, textures, car and fonts. Content Manager installation is not recommended as it will miss some files.

## Custom Shader Patch Usage

Our car comes with ([Custom Shader Patch](#)) CSP data installed by default. If you do not use this tool, read the Physics installation via Batch Script section to install the standard Assetto Corsa physics.

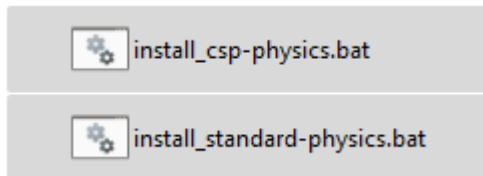
The minimum version of CSP required to operate this car is version 0.2.3.

CSP is an extension of the [Content Manager](#) base (these are popular optional tools created by third-party developers to enhance the launching procedure and functionality of Assetto Corsa). This car does have custom CSP physics and visual functionalities, but the core product does not depend on any imperative CSP features that warrant any concern. As described, some capabilities are only available with the use of the tool.

**The majority of functionality described below in the subsequent pages requires CSP!**

## Physics installation via Batch Script

New to RSS is physics installation via batch script. We have written these scripts, so please be sure the code is properly constructed. These are the .bat files contained inside the car's folder which allows you to swap easily between standard Assetto Corsa and CSP physics.



In a Windows environment, simply double click your preferred choice of physics. This will look for a file inside the new \physics folder, so please keep this folder safe.

## CSP Physics

Our car has CSP Extended physics which enhance the core functionality and feel of the car:

### Tyres

- New heating model
- More accurate stiffness
- Ray tracing for better tyre collision detection

### Suspension

- Adjustable, nonlinear bumpstops
- Better accuracy of suspension geometries

### Aero

- More accurate aeromap based model
- Roll and yaw effects are now simulated
- Adjustable wing angles

### Engine

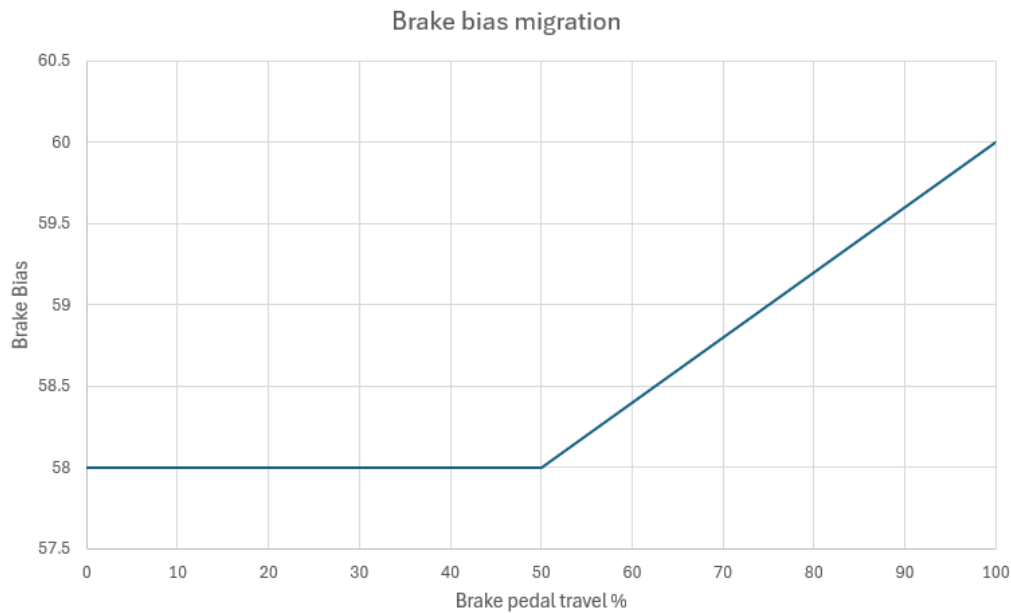
- 3 different engine maps, adjustable while driving
- Introduction of engine maps
- More accurate fuel consumption

### Brakes

- Brake Bias Migration, Ramp: this allows you to dynamically change the brake bias based on the brake pedal travel. The ramp parameter sets at what pedal travel starts working, and the brake migration setting adds an extra amount of brake bias. Case example: Base brake bias 58%, Ramp 50%, Migration 2% = the brake bias will be 58% between 0 and 50% of pedal

travel, then it will start shifting forward until it adds 2% more at 100% travel (60% effective brake bias). See how it looks on our Display, [here](#).

### Brake Migration Example



This example of brake migration shows an example of Brake Bias 58, Brake Migration 2, Ramp 50 (all in the CSP physics data), and how the Brake Bias migrates forward after it passes the threshold defined in Ramp, and as you increase the pressure it migrates more forward according to your Brake Migration setting.

Brake Migration is where the braking balance of a vehicle shifts dynamically during braking due to changes in aerodynamic load, suspension geometry, and weight distribution. This shift can occur longitudinally (front to rear) or laterally (side to side) as the car decelerates and the aerodynamic downforce decreases. Brake migration can affect the handling and stability of the vehicle, particularly during cornering. Drivers and engineers need to manage brake migration to maintain optimal braking performance and ensure the car remains balanced and controllable under heavy braking. Advanced brake systems and careful setup adjustments are often employed to mitigate its effects.

### Tyre Temperatures

The table below shows the optimal tyre temperatures for this vehicle according to the tyre compound. It is reasonable to drive above or below these ranges within a 20-degree window and it is not necessarily the case that all tyres will reach these temperatures on a given track.

	Name	Grip	Temp
C5	UltraSoft	100.0%	95
C4	SuperSoft	99.0%	100
C3	Soft	98.0%	105
C2	Medium	97.0%	110
C1	Hard	96.0%	115

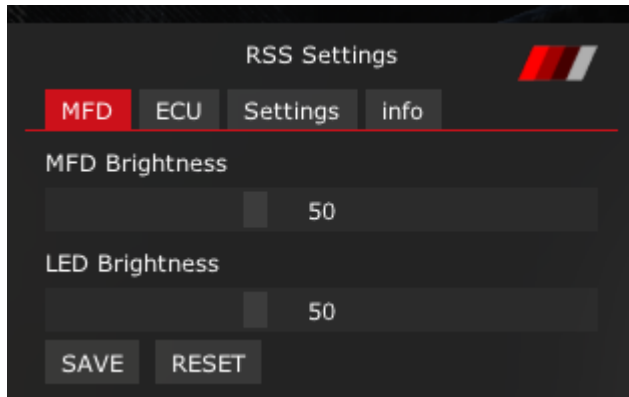
## RSS Settings Application

### Overview

Additionally included is the new RSS Settings app which offers the ability to control various outputs on the Multi-Function Display (MFD).

After performing a clean, manual installation of the full package from the instructions described above, and ensuring that you are using the CSP tool, you can access the RSS Extended Controls app in-game by moving your mouse to the far right during an active session to bring up the applications menu and searching for our tool.

### Page 1 – MFD

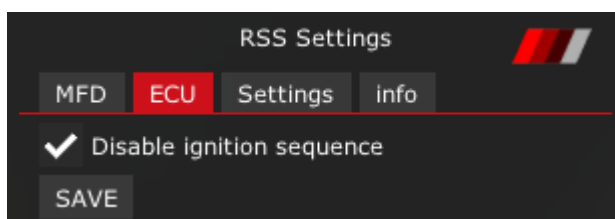


- MFD Brightness – Adjust the brightness of the display.
- LED Brightness – Adjust the brightness of most LEDs on the steering wheel.

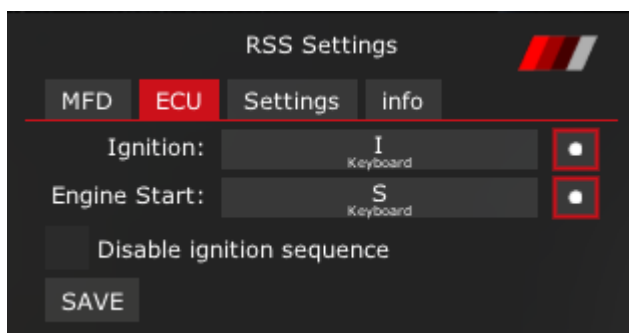
### Page 2 – ECU

This is described in more detail in the [Starting the Car](#) section below. It is responsible for assigning controls to start the car.

By default, to ensure maximum compatibility, engines will be started automatically. If you wish to manually start your car or experience the bump-start effect, you will need to untick and save the “Disable ignition sequence” checkbox below, then press save. This is affected globally for all cars that use this app.



Unchecking and saving results in the following:

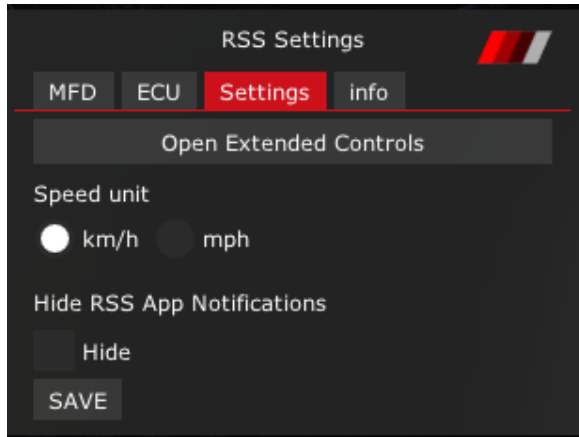


## Starter Sequence

Upon pressing the ignition there is a very short delay before you can press the engine starter, which then takes just over a second to start. If you wish to not use the starter sequence, you can disable the ignition sequence and press Save.

In races, the starter sequence is ignored. The cars will be started and ready right away.

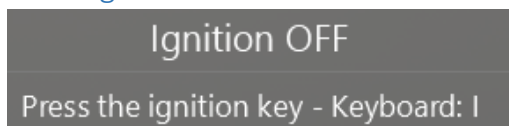
## Page 3 – Settings



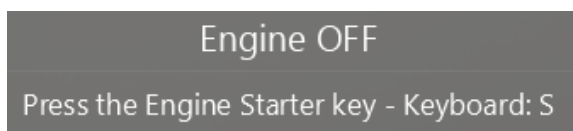
This page allows you to do basic operations such as changing the speed units or hiding the RSS App notifications that appear at the top of the screen (though this is not always recommended until you are familiar with the vehicle).

We also have an Open Extended Controls button which, if you have the [Extended Controls](#) application installed, will enable you to map a variety of buttons that can adjust the parameters of the car in-game, for example the Differential, Brake Migration settings, and more, see [here](#).

## Starting the Car



- Turn on ignition – By default, this is mapped to keyboard key **i** to start the ignition.



- Turn on starter – Press keyboard key **s** to start the engine.

You can change these settings to any keyboard key, gamepad, or steering wheel button at the Electronic Control Unit (ECU) screen or in the Extended Controls application, if installed.

You can also disable this entirely by pressing the “Disable ignition sequence” checkbox on this screen as described in [Page 2 - ECU](#).



## Steering Wheel

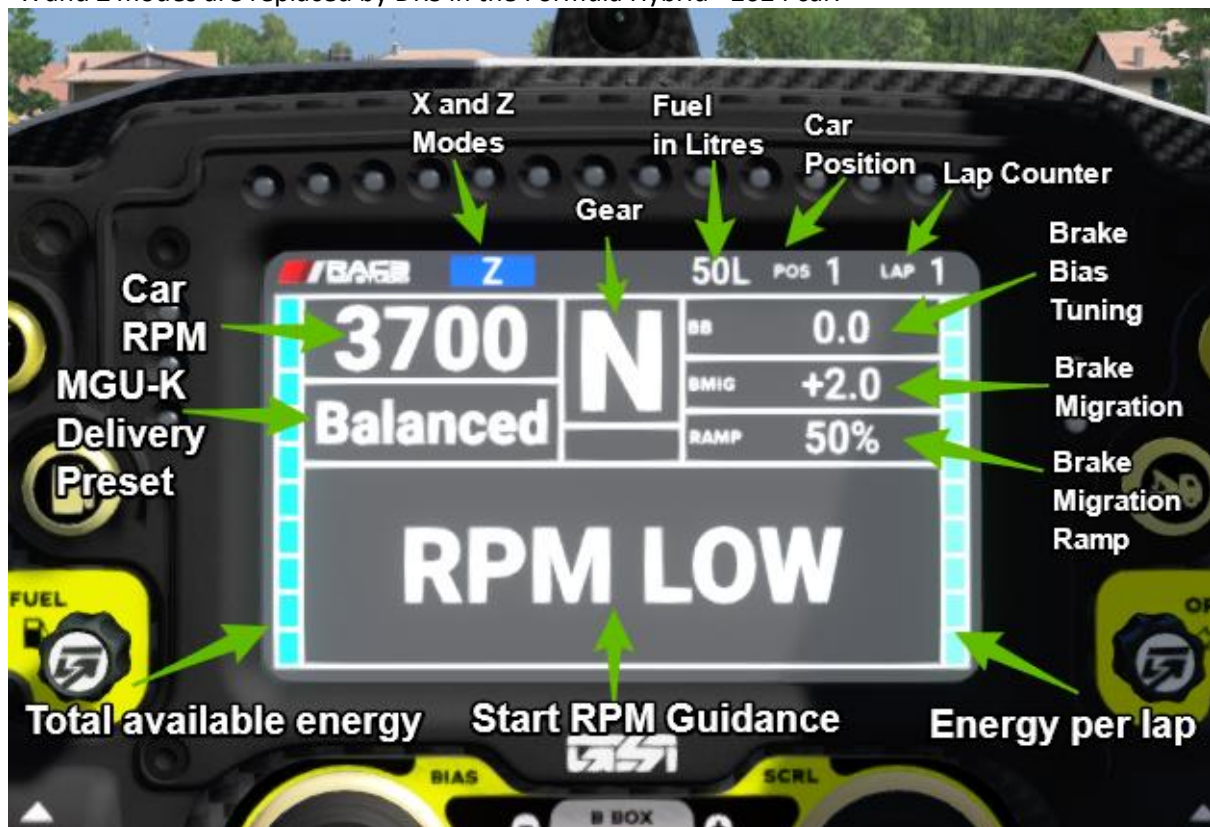


The [Gomez Sim Industries Hyper P1](#) steering wheel features on our Formula Hybrid range of vehicles. We believe this to be an exceptionally well-made sim racing steering wheel for these vehicles that is also versatile enough to be used for a broad range of other modern machinery beyond Formula racing. There are up to 72 mappable inputs, 12 push buttons, 4 thumb encoders, 5 5-way encoders, 3 7-way switches, a 4.3-inch touchscreen display, 88 addressable RGB LEDs, 3 + 14 + 3 RGB telemetry strip, 5mm carbon fibre front plate with an aluminium unibody. Find out more [here](#).

## In-Game Steering Wheel

Session-start screen.

\*X and Z modes are replaced by DRS in the Formula Hybrid® 2024 car.

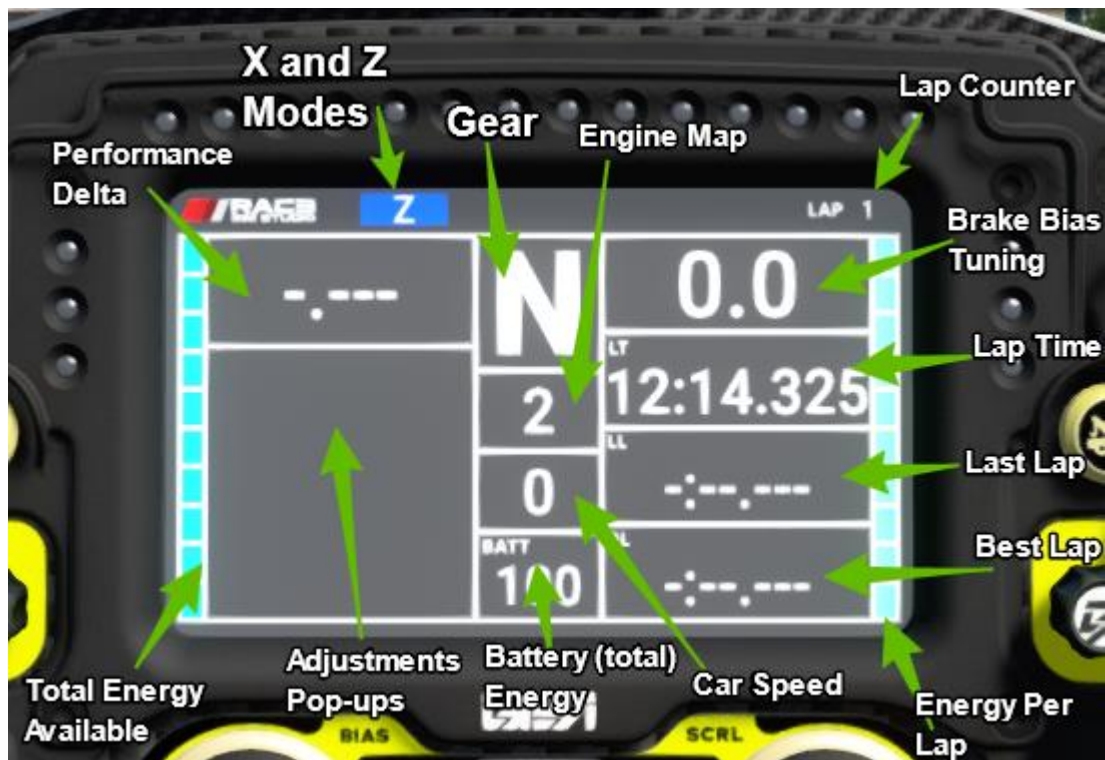






### Multi-Function Display 2

This display is primarily used, and will automatically appear, in qualifying sessions (not to be confused with Hotlap sessions). It presents a more focused display with less information, but still enough to be useful over the course of a lap.



### Multi-Function Display 3

As you can adjust differential and brake migration settings live, in-game, you can view the Differential and the Brake Migration which was discussed in this section [here](#) with this screen.





## LEDs



Neutral Gear



Reverse Gear



Approaching DRS Zone



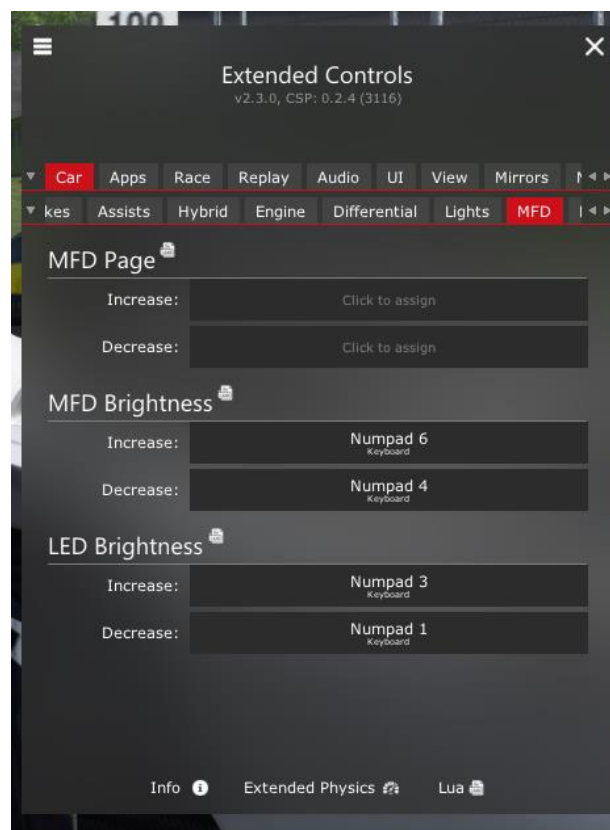
In DRS Zone, but DRS is not active



DRS is active

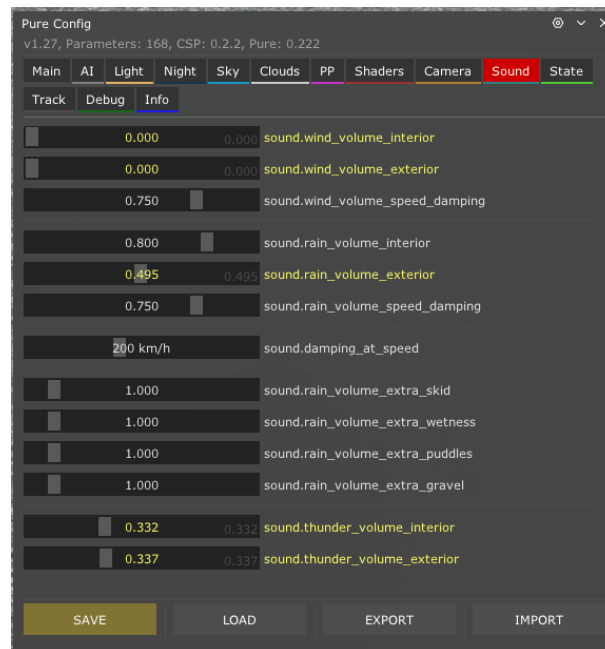
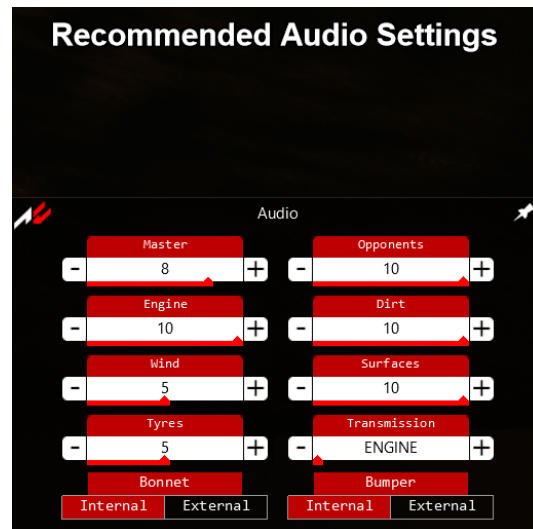
## Adjusting Pages and Controls

You can adjust between the display pages either in the RSS Settings app, under the MFD tab's MFD Page slider, or by setting up buttons for control in the Extended Control application's CAR > MFD tab. Extended Controls is discussed in the Settings section [here](#). You can also adjust many of the cars controls, as advised the aforementioned section.



## Sounds

It is very important that you set up the Audio settings correctly to not only have an optimized user experience, but to also demonstrate any recordings you make of the vehicle in the best way.



If you are using external tools such as Pure/SOL, they add an interior and exterior wind volume which significantly affects low frequencies in our cars and we do not recommend using these, particularly as our cars carry wind sound effects already. We advise setting this to 0 in the Pure Config in-game application and pressing Save.

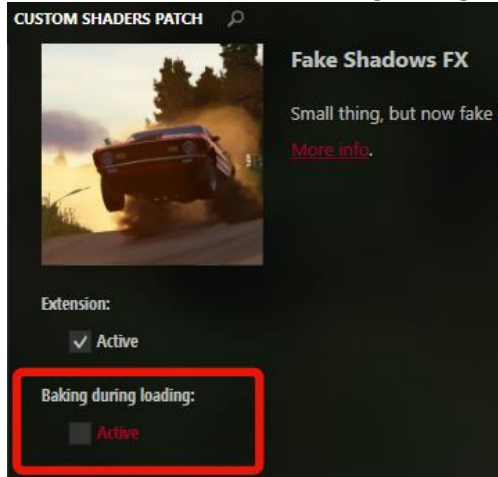
Set the Audio in the Audio settings in the Main Menu or using the Audio app while in-game (move your mouse to the right of the screen during an in-game session to view apps).

Transmission is a very important one. Please ensure Transmission is set to ENGINE or is not too high.

## CSP Settings

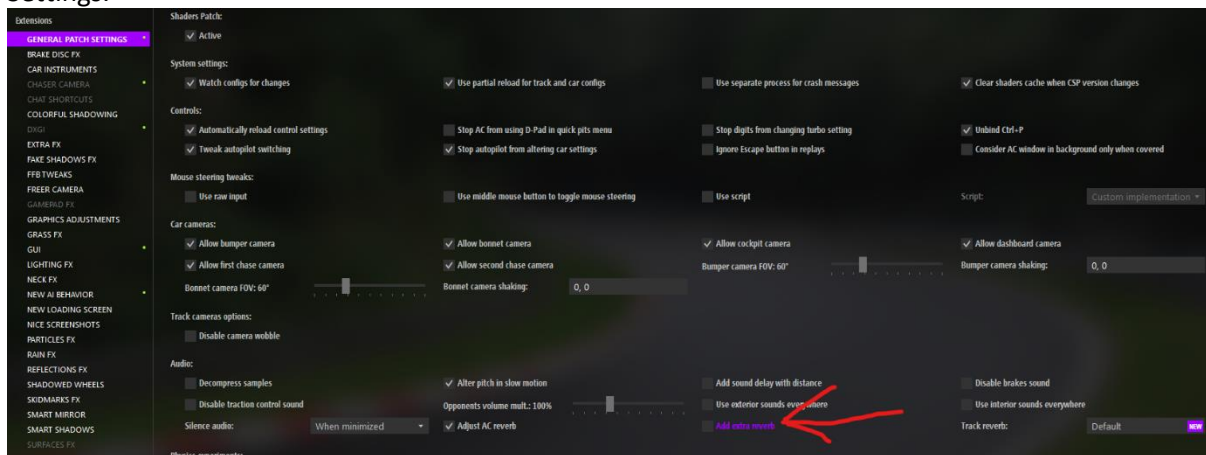
There are various CSP options that cause visual issues which we recommend changing the settings to. These are found in the Settings > Custom Shaders Patch menu area, with the effect listed below.

One is to do with Fake Shadows FX, which does not properly render the shadows of the car. We therefore recommend disabling Baking during loading.



## Reverb

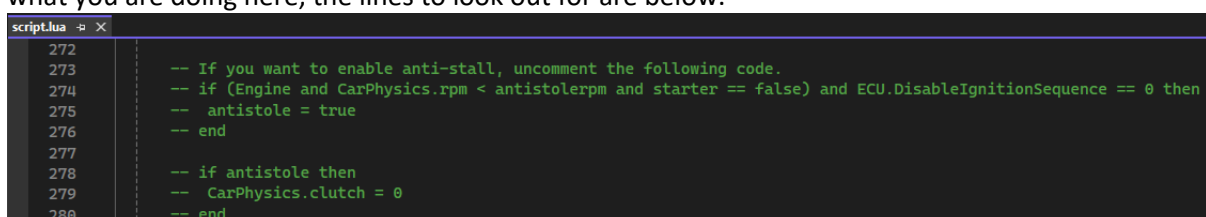
We have noticed some issues with the sound in CSP version 0.2.4 such as missing audio effects. We therefore advise as of November 2024 that CSP 0.2.3 is used for the most optimal audio experience. Additionally, a default setting in CSP causes extra reverberation to the sounds, making an echo-like unintended audio effect which can be adjusted in Settings > Custom Shaders Patch > General Patch Settings.



## FAQ

### Anti-Stall Capable?

The car is anti-stall capable in the data/script.lua, but the code has been disabled to maximise on usability. We typically do not advise on data.acd extraction and modification. However, if you know what you are doing here, the lines to look out for are below.





## Social Media Links



## Terms of Use

By downloading, you agree it is illegal to obtain or distribute an unauthorized or unpaid copy of this vehicle or any of our work and will not commit these activities outlined in this document and may be liable to encounter legal action which we will seek to enforce.

This car, or any of the cars created by Race Sim Studio, are not to be used in public or corporate events (such as sim racing or hardware show, events and expositions) or for televised or large-scale content creation of any kind by public or private companies (such as simulator providers) or individuals without the expressed permission of RSS.

Content creators are advised to make every effort to not misinform the general public by rebranding our work as a specific car of a specific category.

You are not permitted to convert or extract any of our 3D models or any components of our work for personal, private or business use in any way. For queries, the email address listed below can be contacted for any business or support queries. Do not redistribute, upload, modify or sell any of our work.

For permissions and licensing queries, please reach out to Race Sim Studio via our website contact forms.

© 2024 Race Sim Studio. All rights reserved. This work is not for distribution.