

# Realistic Engine Sounds - LITE

By: Yugel Mobile



Thank you for purchasing Realistic Engine Sounds LITE!

Compatible with Unity Free and Pro version too

+ Mobile Support!

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# Package includes:

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- 4 .unitypackages for car controllers (containing prefabs and demo scenes):
  - Edy's Vehicle Physics
  - Realistic Car Controller
  - Randomation Vehicle Physics
  - Unity Standard Assets Car
- 5 ready to use engine sound packages for exterior and interior camera views with **Engine Startup** sounds:
  - i4 German
  - i6 German
  - i6 German FREE (available for free in the Asset Store)
  - Rotary x8 FREE (available for free in the Asset Store)
  - V8 American – Classic
- Each engine pack have 3 prefab types: Stock, Street and Track for booth mobile and non mobile devices.
- There are 60 prefabs for each car controller (15 exterior, 15 interior, 15 exterior mobile and 15 interior mobile prefabs)
- 60 empty engine prefabs + \*240 engine prefabs for car controllers + 15 universal prefabs for Gear changing sound and Muffler pluck noise packs.
- One Wav audio file for reverse gear
- 8 controller scripts for prefabs + scripts for demo scenes
- 12 demo scenes:
  - Scene for testing Realistic Engine Sounds in an user friendly UI environment
  - Scene for testing Realistic Engine Sounds Mobile in a user friendly UI environment
  - Unity Standard Assets car with Realistic Engine Sounds
  - Unity Standard Assets car with Realistic Engine Sounds Mobile
  - Realistic Car Controller with Realistic Engine Sounds
  - Realistic Car Controller with Realistic Engine Sounds Mobile
  - Camera controller for RCC with RES
  - Edy's Vehicle Physics with Realistic Engine Sounds
  - Edy's Vehicle Physics with Realistic Engine Sounds Mobile
  - Camera controller for EVP with RES
  - Randomation Vehicle Physics with Realistic Engine Sounds
  - Randomation Vehicle Physics with Realistic Engine Sounds Mobile

Each scene has it's own engine sound prefabs.

There are total 100 Wav audio files in this package.

There are total \*315 prefabs in this package.

# Importing R.E.S. asset package into your project

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- **Edy's Vehicle Physics:** When you're importing my asset for Edy's Vehicle Physics you must import **Edy's Vehicle Physics, Realistic Engine Sounds** assets and **EdysVP\_RES-Lite.assetpackage** from: **.. \RealisticEngineSound\Assets For EVP5** folder.
- **Realistic Car Controller:** When you're importing my asset for Realistic Car Controller you must import **Realistic Car Controller, Realistic Engine Sounds** assets and **RCCV3\_RES-Lite.assetpackage** from: **.. \RealisticEngineSound\Assets For RCC\_V3** folder.
- **Randomation Vehicle Physics:** When you're importing my asset for Randomation Vehicle Physics you must import **Randomation Vehicle Physics, Realistic Engine Sounds** assets and **RVP2\_RES-Lite.assetpackage** from: **.. \RealisticEngineSound\Assets For RVP2** folder.
- **Unity Standard Assets' Car:** When you're importing my asset for Unity Car you must import **Unity Standard Assets, Realistic Engine Sounds** assets and **UnityCar\_RES-Lite.assetpackage** from: **.. \RealisticEngineSound\Assets For Unity Car** folder.
- **Other vehicle controller:** When you're importing my asset for a project that is using another vehicle controller, just import **„Realistic Engine Sounds“**. You need to create your own script to set Realistic Engine Sound script's rpm to your vehicle controller's rpm. If you have problems doing this, feel free to contact me, I will try to help you when I have some free time.

## How to update from older RES version?

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Before you update Realistic Engine Sounds for new version, backup your current project!

Delete *RealisticEngineSounds* from your project, and import the updated RES version into your project. After this step import the required \*.assetpackage for your car controller.

That's all, now you have the updated version of Realistic Engine Sounds. Read the Release Notes to find out what's new in this version.

Don't forget to write a review for my asset in the Unity Asset Store. I would like to hear some feedback. Thank you!

# How is this package working?

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Before you start using this package you need to understand how is this package working, especially if you want to use your own Wav audio files.

There are two RES controller scripts: - RealisticEngineSounds.cs and RealisticEngineSounds\_mobile.cs

RealisticEngineSounds\_mobile.cs don't have deceleration sounds, it may use less audio sources.

**For mobile devices I recommend to use RealisticEngineSounds.cs for Player's car and RealisticEngineSounds\_mobile.cs for Opponent's car.** If you want your player's car to be louder, set Dopler Amount to 0.5 or similiar value and for Opponent's car set Dopler Amount to 1.

Realistic Engine Sound script uses 9 Wav audio files:

- Idle: for car's idle rpm
- Low\_On: low rpm sound on – used for accelerating
- Low\_Off: low rpm sound off – used for decelarating
- Med\_On: medium rpm sound on, car is accelerating
- Med\_Off: medium rpm sound off, car is decelerating
- High\_On: high rpm sound on, car is accelerating
- High\_Off: high rpm sound off, car is decelerating
- MaxRPM: car is on maximum rpm and rpm limiting is set to on (if „Use rpm limit” is turned off, audio source is not created for this sound)
- Reversing: whistling sound is played with engine sounds when car is in reverse gear (only if reverse gear is enabled in R.E.S. script)

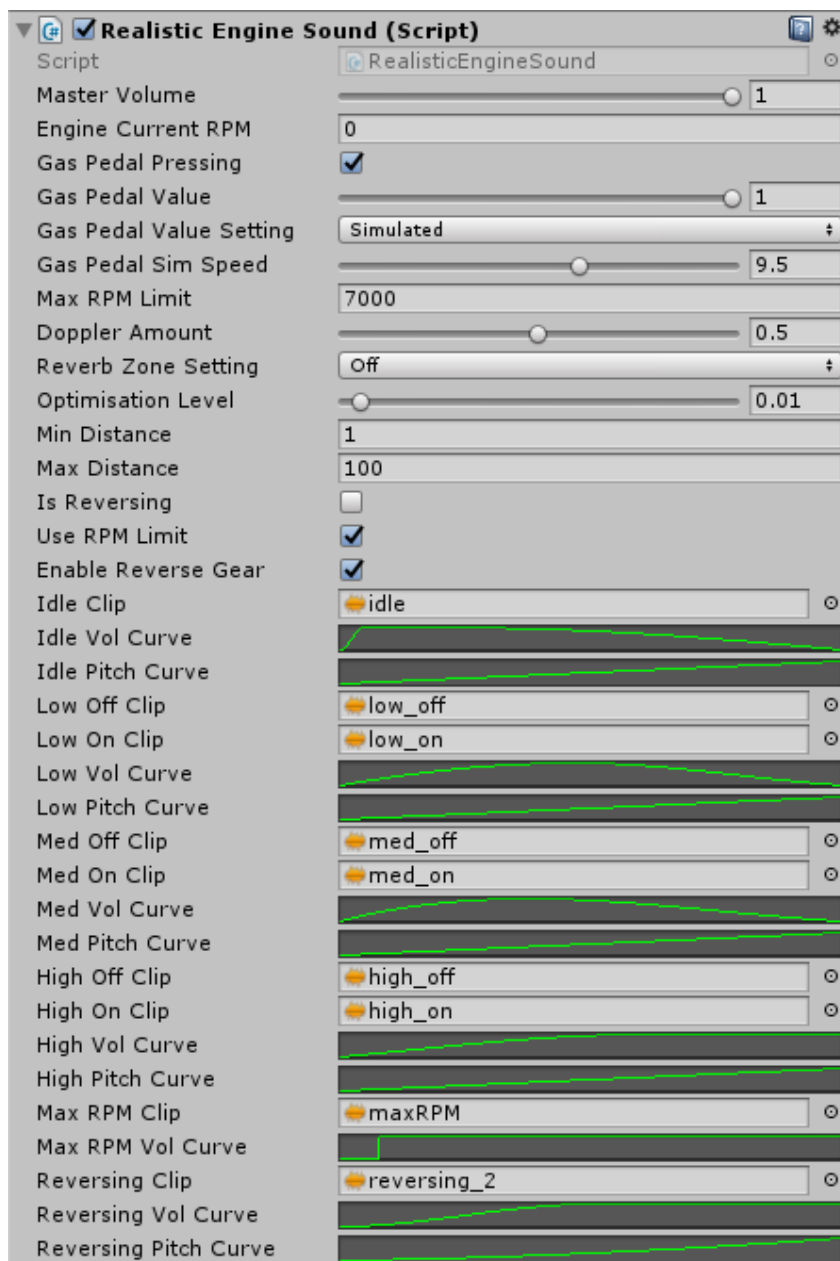
RES script can work with only one or two wav files. You don't need to use all wav file listed above. For example try using only Idle and High wav files and set other audio clips to „None”.

**You do not need to add Audio sources to your Game Object, the script will do it for you.**

Each audio has two settings:

- Volume Curve
- Pitch Curve

*(Low\_On and Low\_Off use the same setting. This is valid to Med\_on-Med\_off and High\_On-High\_off too!)*

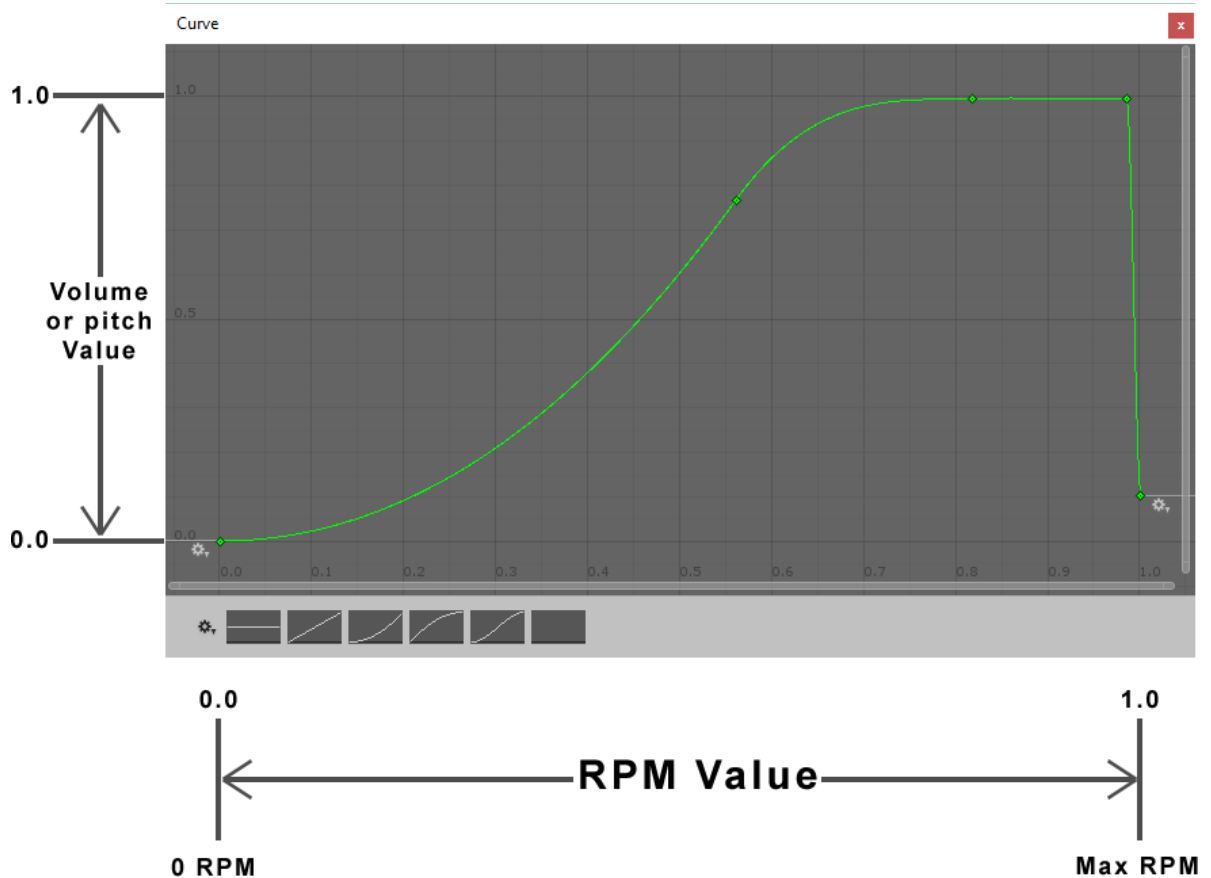


- Master Volume: sets the prefabs maximum volume.
- Engine Current RPM: your car's current rpm (this needs to be set from a custom script, or use one of my controller scripts)
- Gas Pedal Pressing: if it's true it will play accelerating sounds, if it's false it will play decelerating sounds
- Gas Pedal Value: how much % is the gas pedal pressed (1 = 100%, 0,5 = 50%, 0 = 0%)
- Gas Pedal Value Setting (Simulated or Not Simulated): in *Simulated* setting sets the *Gas Pedal Value* and it will be simulated by *Gas Pedal Sim Speed* value when the car is started accelerating (this gives a smooth change between decelerating and accelerating sounds). In *Not Simulated* setting the *Gas Pedal Value* is need to be set by manually - this is good for joystick controlled games
- Gas Pedal Sim Speed: sets the simulation speed for *Gas Pedal Value* when *Gas Pedal Value Setting* is set to *Simulated*.
- Max RPM Limit: your car's max RPM (for RCC this is set automatically from RCC settings)
- Doppler Amount: doppler effect value (0 = no doppler effect, 1 = full doppler effect)



- Reverb Zone Setting: adds a reverb zone to the game object and set it's preset.
- Optimisation Value: Audio Source with volume value below this value will be destroyed (at bigger value may be played less audio sources at a time, but engine sound may not change smoothly).
- Is Reversing: if it's true, it will play reversing sound with engine sounds too when *Enable Reverse Gear* is enabled.
- Min Distance: Within the Min distance the engine sound will cease to grow louder in volume.
- Max Distance: MaxDistance is the distance a sound stops attenuating at.
- Use RPM Limit: if it's true it will play max rpm clip if *Engine Current RPM* value = *Max RPM Limit* value.
- Enable Reverse Gear: enable reversing sound effect.

Volume Curve and Pitch Curve settings are modified in a Curve Editor window. (see the image bellow)



From Left to right you see the car engine's rpm value.

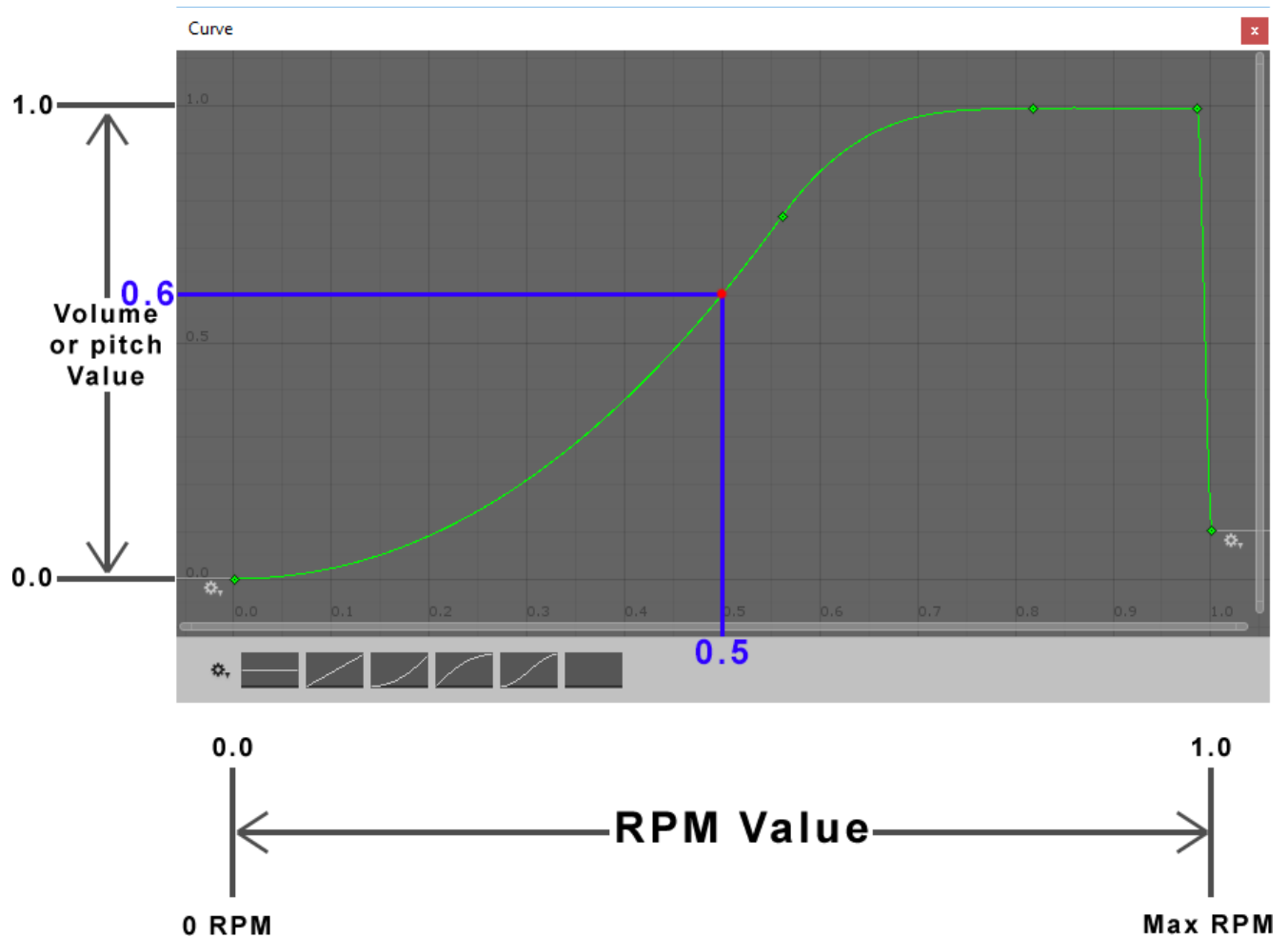
From up to down you see the volume's or pitch's value (depending on which one's setting you opened).

In this image you see the High rpm's volume setting for i4\_german prefab.

These settings are set between 0 and 1 values by RPM Value.

0 value is = 0 rpm, 1 value is = Max RPM Limit, RPM value is calculated by Engine Current rpm.

For example: If your car's Engine Current rpm is 3500 and Max rpm Limit is 7000, your RPM value will be 0.5 (See the image bellow).



In this image you see High\_On audio file's volume settings.

If rpm value = 0.5 volume value will be ~ 0.6



# Setup for Unity Car

Youtube video url for this tutorial: <https://www.youtube.com/watch?v=knYvLM9InFA>

Import Unity Standard Assets and Realistic Engine Sounds.

Now import **UnityCar\_RES-Lite.unpackage** from the following folder:

**..\RealisticEngineSound\Assets For Unity Car\..**

This unpackage gives you prefabs and demo scenes for Standard Assets car.

Open Unity Standard Assets\_Car Sample Scene from the following folder:

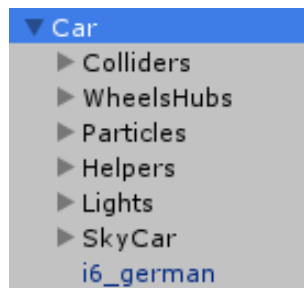
**../SampleScenes/Scenes/..**

Drag and drop one of my prefab for Unity Car on your car's game object. You can find prefabs for Unity Standard Assets car in the following folder:

**../RealisticEngineSound/Assets/Prefabs/Unity\_Car\_prefabs**

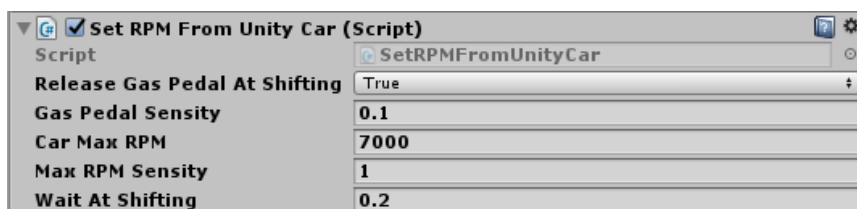
In this example I used i6\_german prefab on my car game object.

Standard Assets car gameobject should look like this after you dropped one of my prefab on it :



That's all, now your Unity Standard Assets car have a cool engine sound, it's time to test it! Press Play button! 😊

## **Unity Car to RES controller script settings:**



- **Release Gas Pedal At Shifting(True or False):** if set to true it will release gas pedal at shifting, and it will play off sounds for more realistic engine sounds for a short time (Wait At Shifting value).
- **Gas pedal Sensity:** sensity of detecting gas pedal pressing
- **Car Max RPM:** car's maximum RPM
- **Max RPM Sensity:** sensity of playing rpm limit sound. (if CarMaxRPM is set to 7000, and Max RPM Sensity is set to 1, RPM limiting sound will start playing at 6999 RPM. If Max RPM Sensity is set to 100, RPM limiting will start playing at 6900 RPM.)
- **Wait At Shifting:** if Release Gas Pedal At Shifting is set to true, it will play off engine sounds for X seconds. In this example off engine sounds will be played for 0.2 seconds.

# Setup for Edy's Vehicle Physics

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Youtube video url for this tutorial: [https://www.youtube.com/watch?v=D4ZUnQ\\_vdZc](https://www.youtube.com/watch?v=D4ZUnQ_vdZc)

Import Edy's Vehicle Physics and Realistic Engine Sounds.

Now import **EdysVP\_RES-Lite.unitypackage** from the following folder:

**..\RealisticEngineSound\ Assets For EVP5\..**

This unitypackage gives you prefabs and demo scenes for Edy's Vehicle Physics.

Open any Edy's Vehicle Physics Sample Scene.

Drag and drop one of my prefab for Edy's Vehicle Physics on your car's game object. You can find prefabs for E.V.P. car in the following folder:

**../RealisticEngineSound/Assets/Prefabs/EVP5\_Prefabs**

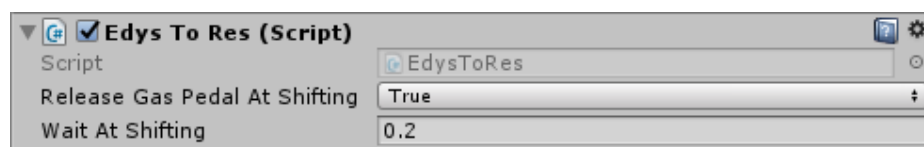
In this example I used i6\_german prefab on my car game object.

EVP car gameobject should look like this after you dropped one of my prefab on it:



That's all, now your Edy's Vehicle Physics car have a cool engine sound, it's time to test it! Press Play button! 😊

## Edy's to RES controller script settings:



- **Release Gas Pedal At Shifting (True or False):** if set to true it will release gas pedal at shifting, and it will play off sounds for more realistic engine sounds for a short time (Wait At Shifting value).
- **Wait At Shifting:** if Release Gas Pedal At Shifting is set to true, it will play off engine sounds for X seconds. In this example off engine sounds will be played for 0.2 seconds.

# - Camera controller for Edy's Vehicle Physics

**Youtube video url for this tutorial:** [https://www.youtube.com/watch?v=D4ZUnQ\\_vdZc](https://www.youtube.com/watch?v=D4ZUnQ_vdZc)

You can control interior and exterior sounds by changing camera view with the stock EVP camera controls. All you need to do is just add a gameobject with my camera controller script to your car. **This script fix the shaking engine sound bug for SmoothFollow, MouseOrbit and AttachTo camera views.**

There is a demo scene for this tutorial: "CAMERA\_EVP5\_with\_RES" scene.

Add an engine pack with exterior and interior sounds to you EVP car. In this example I used the diesel prefab. The diesel engine pack is not included in the lite version, but you can use any engine pack you have. Get the German Diesel engine pack here: <http://u3d.as/VVt>

Add a new gameobject to your car and name it to what you want. In this example I named it to "RES\_CameraController".

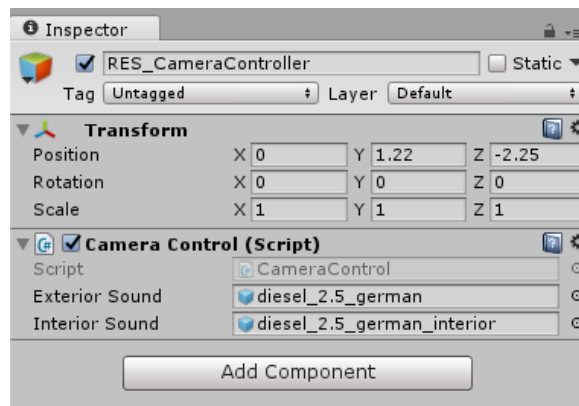
Now your car should look like this:



In your newly created gameobject attach "CameraControl.cs" script. (you can find it in here: ..\RealisticEngineSound\Assets\Scripts\Demo Scene Scripts\EdysDemoScripts)

Into this script attach your exterior and interior engine sound prefabs from your car.

It should look like this:



Positioning this gameobject can make your car sound louder or less louder.

Now time to test it, press play and start changing camera views with the default change camera key. You can edit the default change camera key in "Camera Controller" gameobject's "VehicleCameraController.cs" script.

# Setup for Realistic Car Controller

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Youtube video url for this tutorial: <https://www.youtube.com/watch?v=fBHHACTxV-4>

Import Realistic Car Controller and Realistic Engine Sounds.

Now import **EdysVP\_RES-Lite.unitypackage** from the following folder:

**..\RealisticEngineSound\ Assets For EVP5\..**

This unitypackage gives you prefabs and demo scenes for Realistic Car Controller.

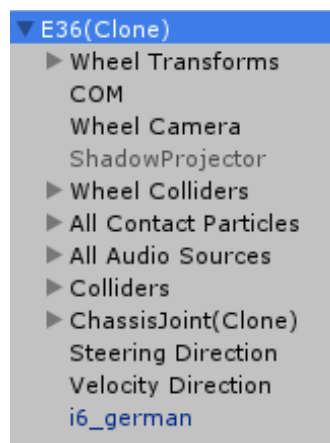
Open any Realistic Car Controller Scene, click on *Option Menu* and spawn a car. In this example I spawned E36 car.

Drag and drop one of my prefab for Realistic Car Controller on your car's game object. You can find prefabs for R.C.C. car in the following folder:

../RealisticEngineSound/Assets/Prefabs/RCC\_V3\_Prefabs

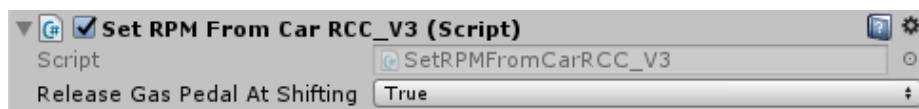
In this example I used i6\_german prefab on my car game object.

RCC car gameobject should look like this after you dropped one of my prefab on it:



That's all, now your Realistic Car Controller car have a cool engine sound! Enjoy it! 😊

## RCC V3 to RES controller script settings:



- Release Gas Pedal At Shifting (True or False): if set to true off engine sounds will be played at shifting.

# - Camera controller for Realistic Car Controller

**Youtube video url for this tutorial:** <https://www.youtube.com/watch?v=fBHHACTxV-4>

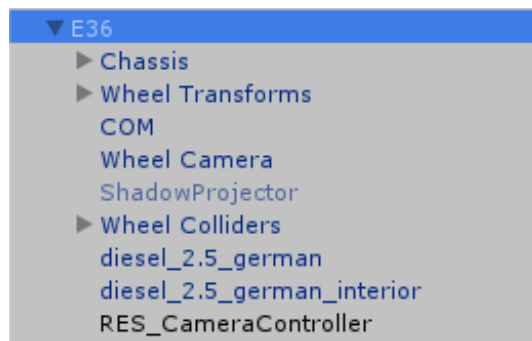
You can control interior and exterior sounds by changing camera view with the default RCC camera controls. All you need to do is just add a gameobject with my camera controller script to your car.

**This script fix the shaking engine sound bug for TPS, FPS and FIXED camera views.**

There is a demo scene for this: “CAMERA\_RCC\_with\_RES” scene.

Add an engine pack with exterior and interior sounds to you RCC car. In this example I used the diesel prefab. Add a new gameobject to your car and name it to what you want. In this example I named it to “RES\_CameraController”.

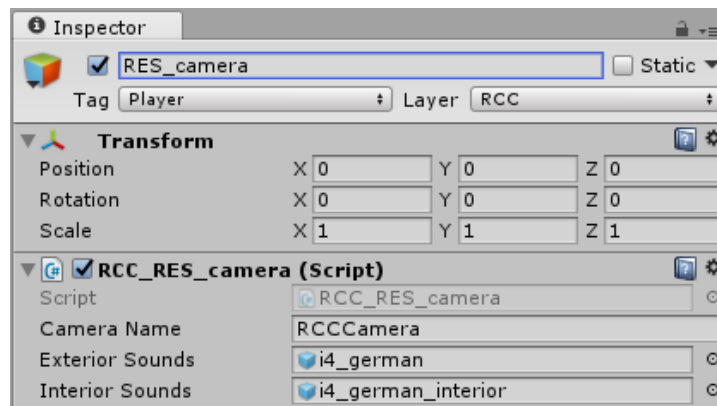
Now your car should look like this:



In your newly created gameobject attach “RCC\_RES\_camera.cs” script. (you can find it in here: ..\RealisticEngineSound\Assets\Scripts\Demo Scene Scripts\RCCDemoScripts)

Into this script attach your exterior and interior engine sound prefabs from your car.

It should look like this:



Positioning this gameobject can make your car sound louder or less louder.

Now time to test it, press play and start changing camera views with the default change camera key.

# Setup for Randomation Vehicle Physics

Youtube video url for this tutorial: <https://www.youtube.com/watch?v=hOmESLYghQc>

Import Randomation Vehicle Physics and Realistic Engine Sounds.

Now import **RPV\_RES-Lite.unitypackage** from the following folder:

**..\RealisticEngineSound\ Assets For RVP2\.**

This unitypackage gives you prefabs and demo scenes for Randomation Vehicle Physics.

Open any Randomation Vehicle Physics Sample Scene.

Spawn a car, drag and drop one of my prefab for Randomation Vehicle Physics on your car's game object. You can find prefabs for R.V.P. car in the following folder:  
**../RealisticEngineSound/Assets/Prefabs/RVP2\_Prefabs**

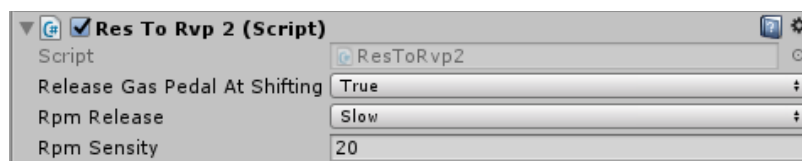
In this example I spawned *Muscle Car* and used *i6\_german* prefab on my car game object.

RVP car gameobject should look like this after you dropped one of my prefab on it:



That's all, now your Randomation Vehicle Physics car have a cool engine sound, it's time to test it!☺

## **RVP to RES controller script settings:**



- **Release Gas Pedal At Shifting (True or False):** if set to true off engine sounds will be played at shifting.
- **RPM Release (Slow or Fast):** when gas pedal is not pressed, release RPM fast or slowly.
- **RPM Sensity:** sensity of detecting car's RPM

# Set Up Your Own Engine Sound

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**Youtube video url for this tutorial:**

<https://www.youtube.com/watch?v=xsLy18rokSk>

Create a new scene, add a new game object and attach Realistic Engine Sound script to your new game object.

Set audio clips, if you don't have your own, use audio clips from:

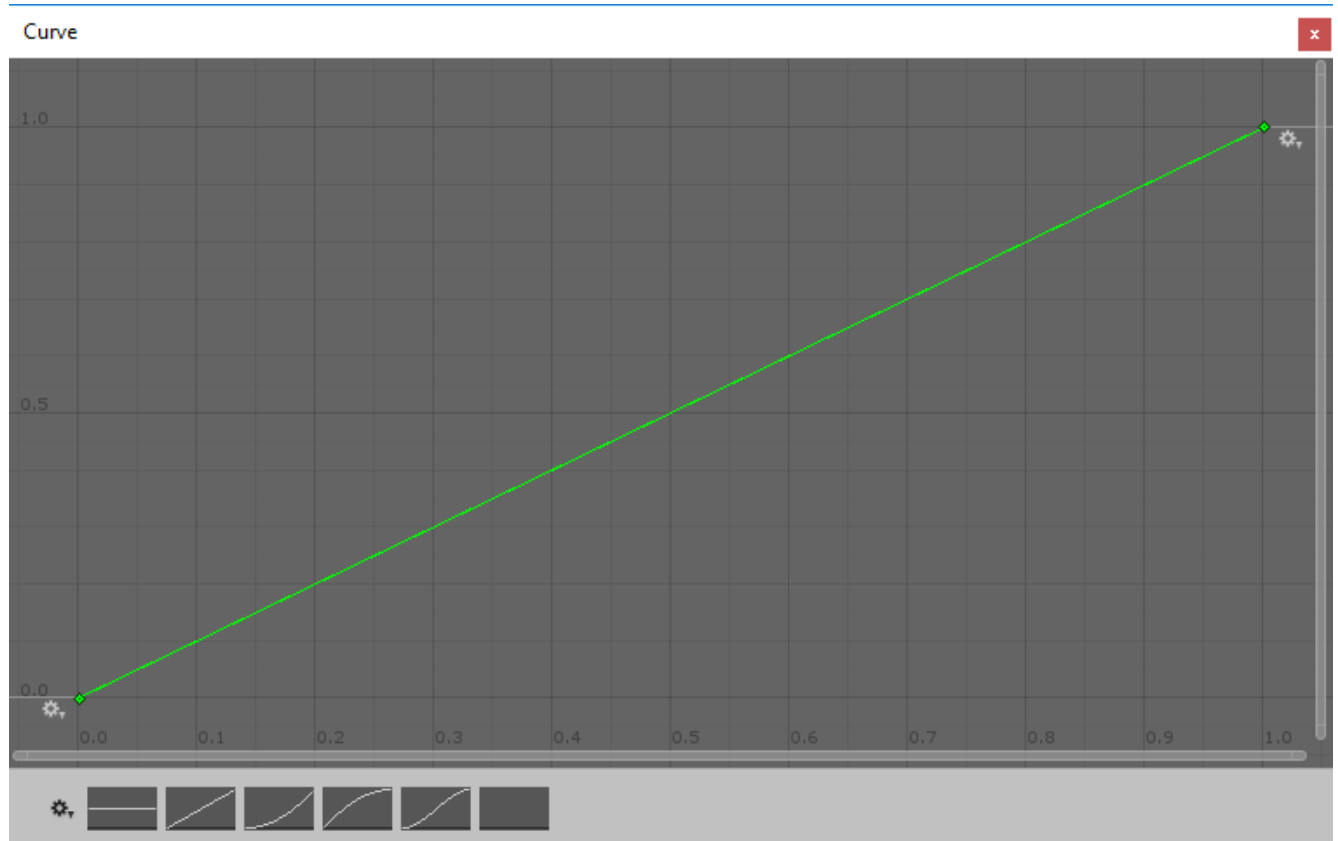
../RealisticEngineSound/Assets/Sounds/... and choose any folder that has engine names.

You can find Reversing Clips here:

../RealisticEngineSound/Assets/Sounds/Reversing

Set each audio clips Volume Curve and Pitch Curve settings.

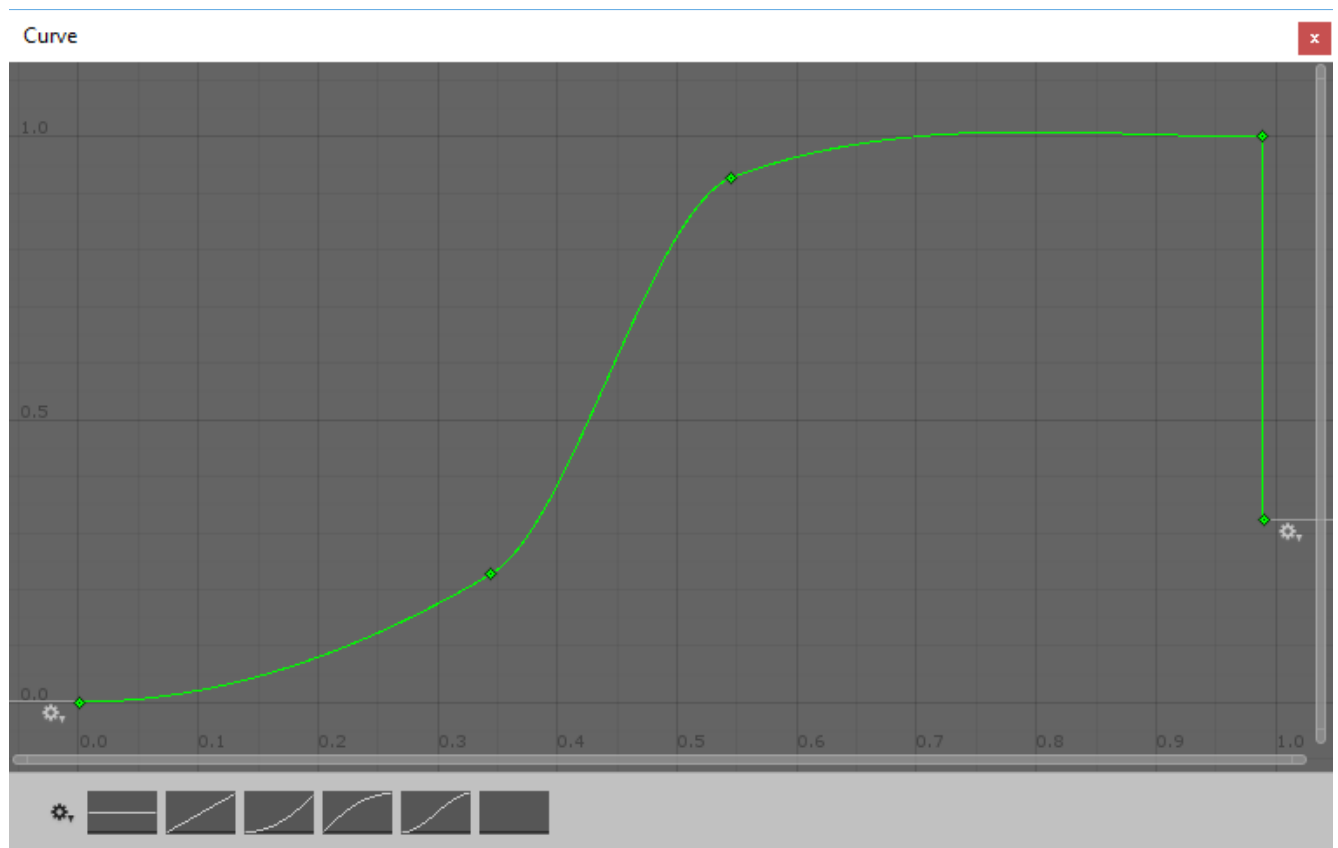
For pitch Curve settings it's better to set it to look like this:



\*Values from left to right do not set it to more than 1.0 value. Values more than 1.0 will never take effect.



For volume curve settings you need to try out a few settings that fits better for your audio clip. Bellow you can see volume curve's setting for high rpm sounds:



\*Values from left to right do not set it to more than 1.0 value. Values more than 1.0 will never take effect.

If you have struggles finding the best settings for your audio clips, look inside my prefab's settings, or change one of my prefab's audio clips to your audio clips – this is the fastest way to test your own audio clips.

If you have set up everything, press the play button and start increasing “Engine Current RPM” in Realistic Engine Sound script to test your engine sound.

Don't forget to enable “Gas Pedal Pressing” to simulate accelerating sounds. 😊

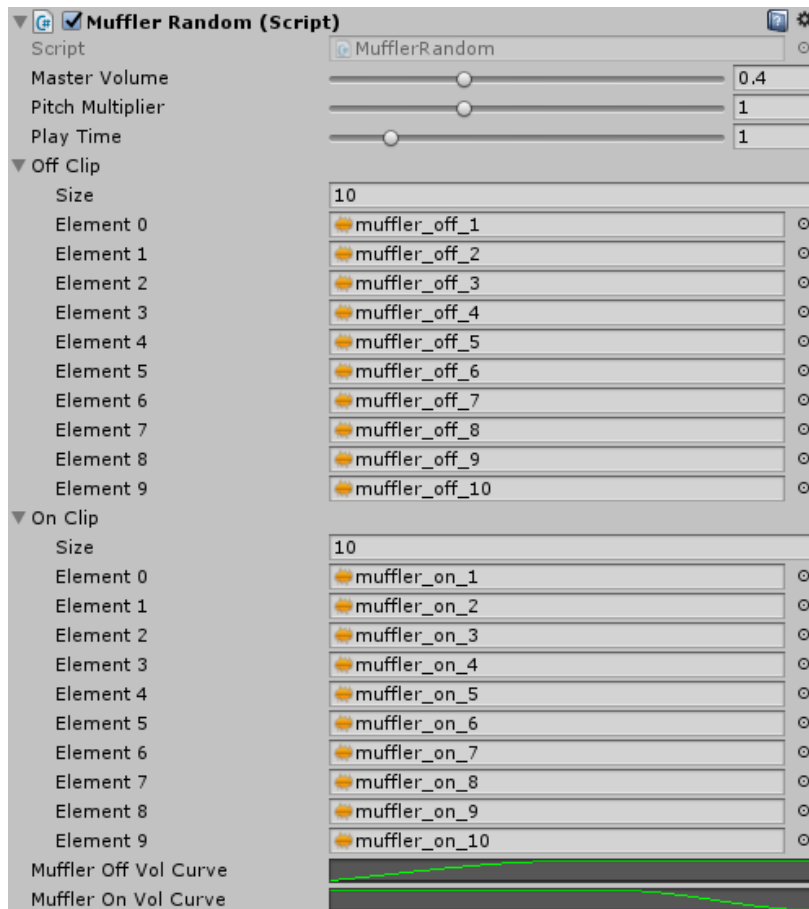
# Muffler Pluck Sound

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## Non random script:



## Random sound clips script:



- **Master Volume:** sets the gameobject's maximum volume.
- **Pitch Multiplier:** multiplies the prefab's maximum pitch value.
- **Play Time:** the time for sound clips is played in seconds
- **Off Clip:** sound clip played for „Play Time” seconds when gas pedal is released.
- **On Clip:** sound clip played for „Play Time” seconds when gas pedal is pressed.
- **Muffler Off Vol Curve:** volume settings for muffler off clips.
- **Muffler On Vol Curve:** volume settings for muffler on clips.

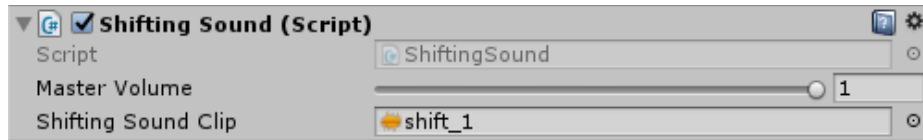
**Drag and drop this prefab on your RES car sound prefab.**

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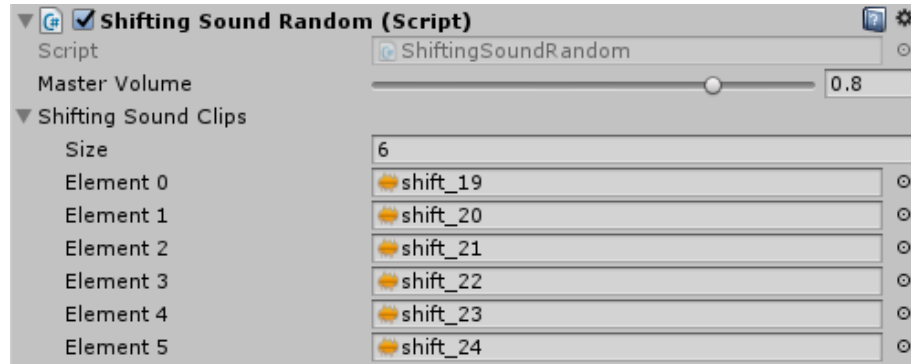
# Shifting Sounds

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## Non random script:



## Random sound clips script:



- **Master Volume:** sets the gameobject's maximum volume.

- **Shifting sound clip:** the sound clip which is played when car is changing gears.

**Drag and drop this prefab on your RES car sound prefab.**

# License

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You can use this asset for unlimited games.

One license per seat for personal and commercial use.

**You can't resell or redistribute the package or any single file from the package on any store!**

# Credits

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All of the sound files are recorded, created and mastered by me.

All of the scripts are written by me.

I would like to say a *Thank You* for the vehicle owners who allowed me to record their car's and bike's engine sound in car and bike meetings and other public events. Some sound files are recorded from *dyno* videos found around the web.

Feel free to contact me if you have any questions or suggestions for this asset.

**Youtube playlist with tutorial and sample videos:**

<https://www.youtube.com/playlist?list=PLYFtdNoo8S3gv1XVv193fI6AhFmgwMMG0>

<https://www.youtube.com/playlist?list=PLYFtdNoo8S3j8ghJ5p11K4Wm0WsiluBqS>

**Official Forum:** <https://forum.unity.com/threads/released-realistic-engine-sounds.479120/>

**Don't forget to write a review for my asset in the Unity Asset Store. I would like to hear some feedback. Thank you!**

**Get engine packs for RES LITE:** <https://assetstore.unity.com/publishers/29907>

**Upgrade to the Plus version here:** <http://u3d.as/S26>

**Upgrade to the Pro version here:** <http://u3d.as/Tii>

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