Vehicle Control Setup for Carla VR Chair Addon

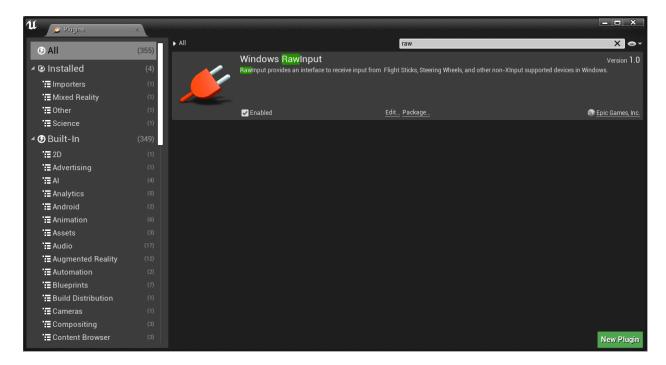
This document provides a summary of how to configure the steering wheel and pedal system for use within the **Carla VR Chair Addon**, using **Unreal Engine's Raw Input Plugin**. This setup enables precise integration of real-world input devices into the simulation.

1. Raw Input Integration

The **Raw Input Plugin** allows Unreal Engine to capture data directly from input devices such as steering wheels and pedals, enabling accurate control and smoother gameplay.

Enable Raw Input Plugin:

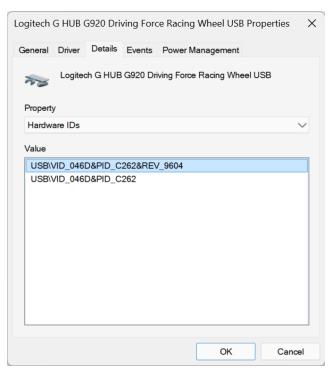
- In Unreal Editor, go to Edit → Plugins
- Search for Raw Input
- Enable the plugin and restart the editor if prompted



2. Identifying Device Vendor and Product IDs

To bind a physical input device correctly, you must identify its **Vendor ID** and **Product ID**:

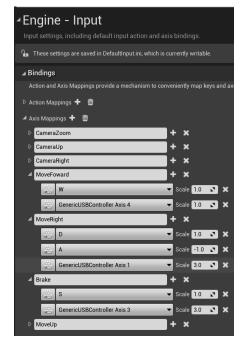
- 1. Open Device Manager in Windows
- 2. Expand Human Interface Devices



- 3. Locate your wheel or pedal device
- 4. Right-click and choose Properties
- 5. Under **Details**, select **Hardware IDs**
- 6. Record the **VID** (Vendor ID) and **PID** (Product ID)

You will need to enter these IDs in Unreal's **Raw Input configuration** panel.

3. Mapping Axes and Buttons



By default, Carla vehicles do **not respond** to external input from the player. Vehicles are controlled through PythonAPI.

To enable **manual control**, you need to configure input bindings and integrate them into the vehicle's **Blueprint Event Graph**.

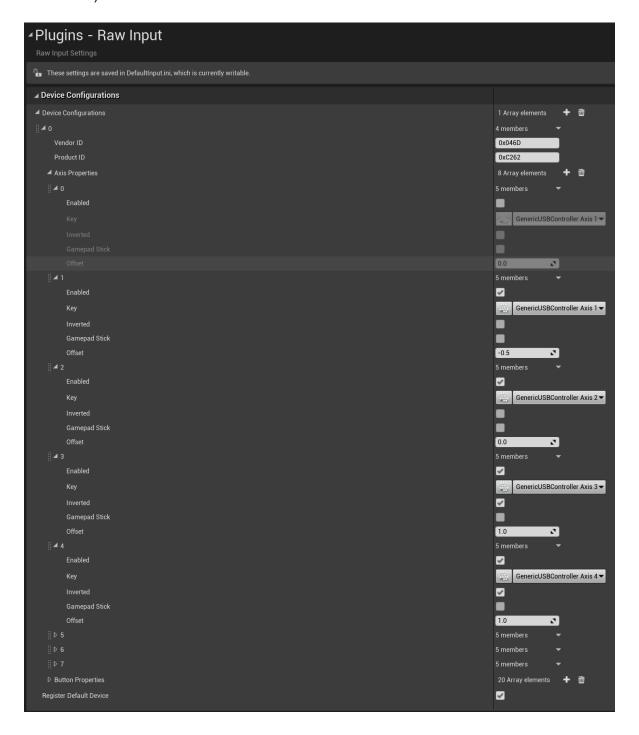
Step 1: Configure Input Bindings

- 1. Open **Edit** → **Project Settings** in the Unreal Editor.
- 2. In the left panel, go to the **Engine** \rightarrow **Input** section.
- 3. Under **Bindings**, add or modify:
- Action Mappings (for buttons like brake, handbrake)
- Axis Mappings (for continuous input like steering, throttle)

4. Device Configuration

After the mapping:

- Use Raw Input settings in Project Settings to map the correct axes and buttons.
- Associate each axis with a named input action or axis in Unreal.
- Test input feedback to confirm signal from each control (steering wheel, throttle, brake, etc.)



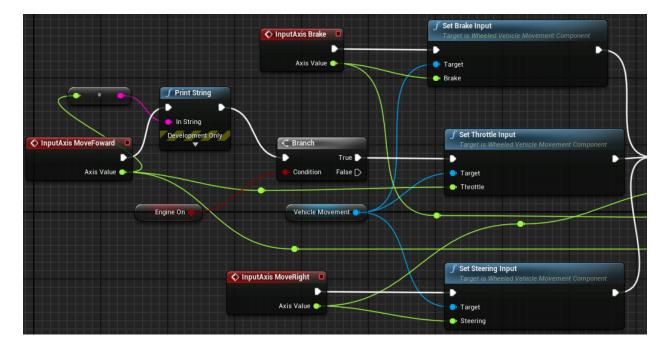
How to Determine the Correct Axis and Button Mappings

Unfortunately, Unreal Engine doesn't show live feedback for Raw Input device bindings during setup.

A common and effective method is to:

- 1. Open your **vehicle blueprint**
- 2. Go to the **Event Graph**
- 3. Right-click and add an **InputAxis** event (e.g., InputAxis MoveForward)
- 4. Connect it to a Print String node
- 5. Play in editor and press the pedal or move the steering wheel

Next figure shows an example of how this is wired using a Print String to display real-time input values.



This live testing lets you:

- Confirm which axis or button is triggered by each physical control
- Measure the input range (usually between 0.0 and 1.0 for pedals or -1.0 to 1.0 for steering)
- Adjust **Offset** and **Scale** values accordingly for precise calibration

Tip: If you see no change in the printed value, try assigning a different axis/button name (see previous chapter) or checking that the device is connected properly.

Notes

- The correct setup will depend on your specific hardware model.
- If your hardware behaves inconsistently, ensure that other device drivers or software (e.g., Logitech G Hub, Thrustmaster Control Panel) are not interfering with Raw Input.