
ASR
BLACK
DELTA
ESC
TC1
ABS

AMPER SIM RACING

User Manual

Before you start:

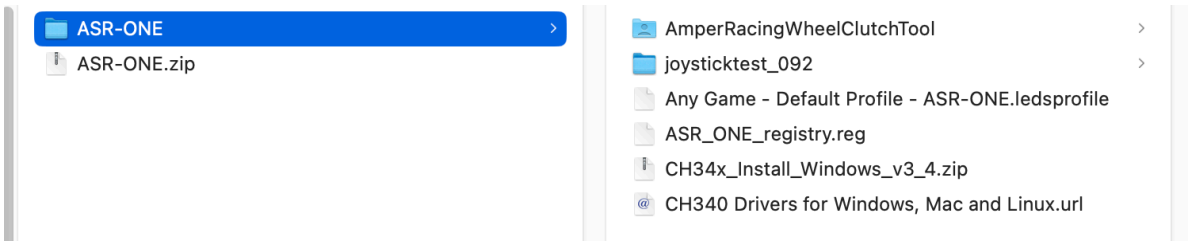
please **read** this manual and install ASR-ONE the drivers, which you find in this description! Even more useful tools are deceived at the end of this manual

AmperSimRacing tools to start with

AmperSimRacing tool collection - to be downloaded from AmperRacing Server, follow this link:

http://tools.ampersimracing.com/ASR-ONE.zip

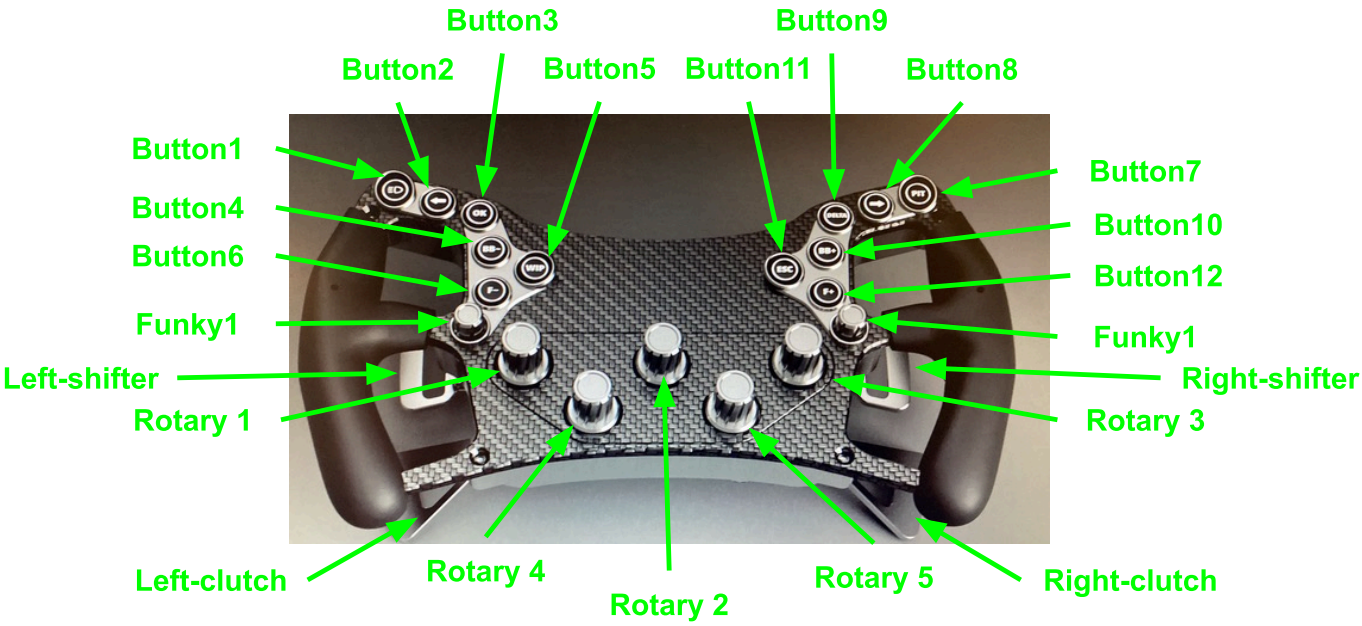
The AmperSimRacing tools need to be unzip in a clean folder, than you will find the following files:



- **CH34x***.zip**
  is an archive containing the arduino serial driver for SIMHUB. Unzip and run the CH34x_Install_Windows_v3_4.EXE to install it.
- CH340 Drivers for Windows, Mac and Linux.url
  is the same, but you download directly from the distributor.

Where is What?

The ASR-ONE comes with 12 regular Buttons, 2 Funky Heads, 5 Rotary Encoders, 2x Shifter-Paddles, 2x Clutch-Paddles



Power-ON

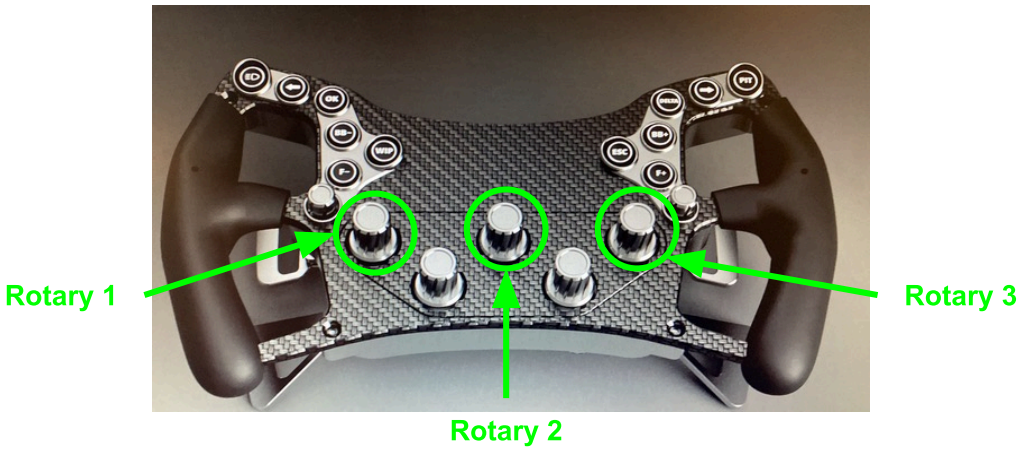
Ensure you are using an **USB 3.x** slot of your PC to plug in your ASR-ONE.
When you turn on Power for your ASR-ONE you need to pull and release the both Shifter-Paddles and the both Clutch-Paddles once.

- why to do this ? - its to calibrate the magnetic Paddles

Special Functions

Enter/Leave Clutch-Programming MODE:

Your ASR-ONE supports a Clutch-Programming mode.
To **Enter** Clutch-Programming Mode you need to Push the Rotary Buttons 1 and 3 at the same time for longer than 4 seconds.

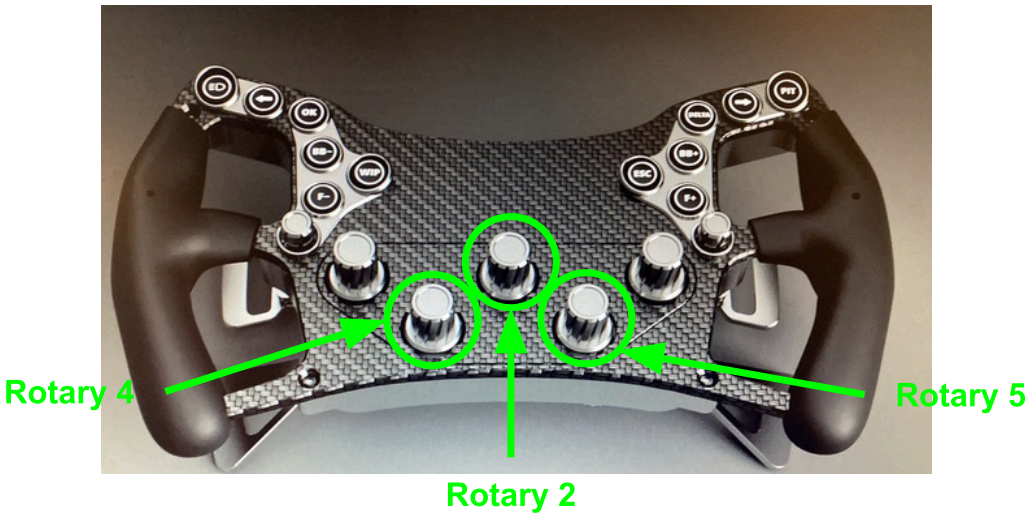


You
Leave

Clutch-Programming mode at any time by pushing the Rotary 2 button.

Enter/Leave Sequence-Programming MODE:

Your ASR-ONE supports a Sequence-Programming mode.
To **Enter** Sequence-Programming Mode you need to Push the Rotary Buttons 4 and 5 at the same time for longer than 4 seconds.



You
Leave

Sequence-Programming mode at any time by pushing the Rotary 2 button.

“

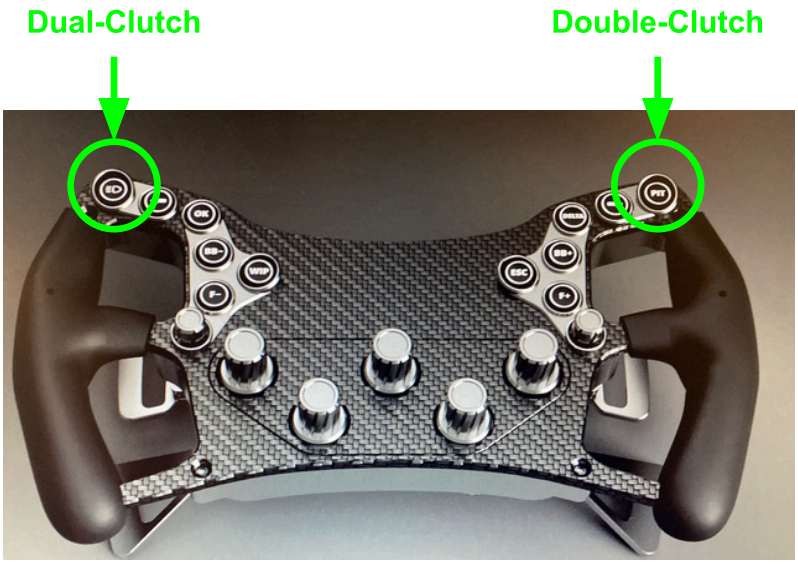
Clutch Operating MODEs:

Your ASR-ONE Clutch offers two modes of operation.

1. normal “Dual”-Clutch Mode. Here your Left and Right Clutch are independent Paddles with identical behavior. Each can engage and dis-engage the Clutch from 0% to 100%, or mapped to independent paddles in your iRacingSoftware.
2. “Double-Clutch” Mode. Here you can use one Clutch-Paddle to go from 0% (fully-released) to 100% (fully-engaged) and the other Clutch-Paddle to go from 0% (fully-released) to any value between 0% and 100%, depending on your setting. You can furthermore program your setting permanently into your ASR-ONE permanent memory.

Switching between normal “Dual-Clutch” mode and “Double-Clutch” Mode:

Once you enter Clutch-Programming mode you can switch your Left and Right Clutch between the “Double-Clutch” mode or the normal “Dual-Clutch” Mode.



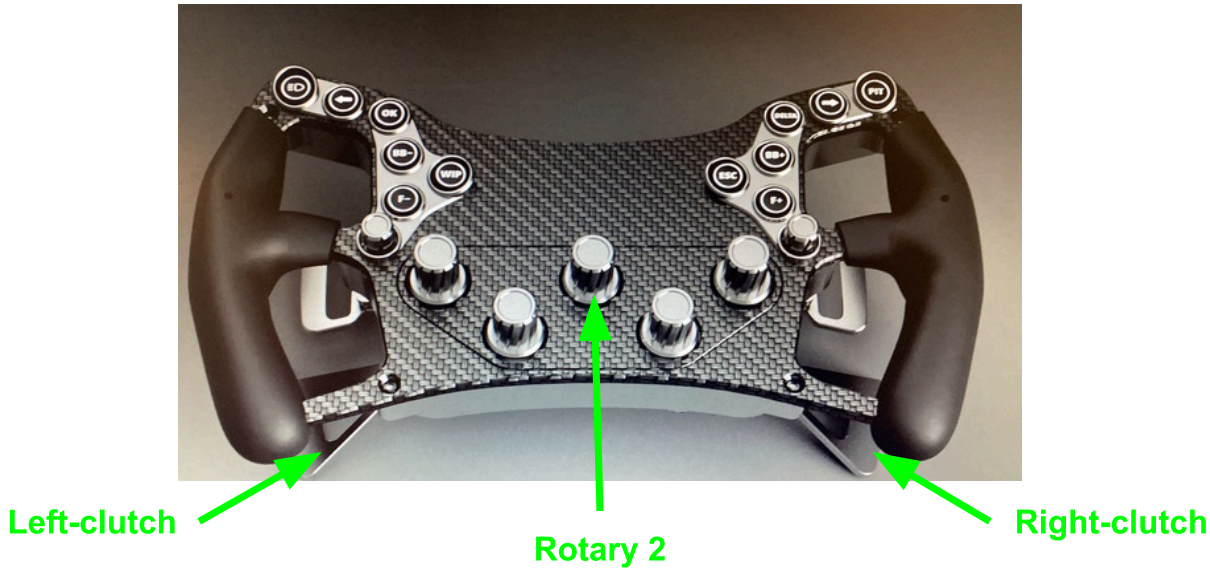
You enable “Double-Clutch” Mode by pressing Button 7.
You revert back to normal “Dual-Clutch” Mode by pressing Button 1.

Your selection will be stored into ASR-ONE permanent memory once you leave clutch-programming mode by pressing the Rotary 2 Button.

Double-Clutch mode: setting the maximum Clutch value, PART-1:

In “Double-Clutch” Mode you can use one Clutch-Paddle to go from 0% (fully-released) to 100% (fully-engaged) and the other Clutch-Paddle to go from 0% (fully-released) to any value between 0% and 100%.

- What is this used for? This is to allow you to have a much better start of the Race. You program the second Clutch-Paddle to only pull the Clutch such that it is just engaged to its **bite-point** and you release it from there to fully-released (0%). As the **Bite-Point** depends on the Car and other factors, Sim-Racers like to have this adjustable and they test this out before going into the start of any race.



To program the **bite-point** of one Clutch, you fully pull and hold the Clutch-Paddle of your choice and while you are holding that Clutch-Paddle you use the Rotary 2 and turn it counter-clock-wise to reduce the maximum value of that Clutch-Paddle until you are satisfied

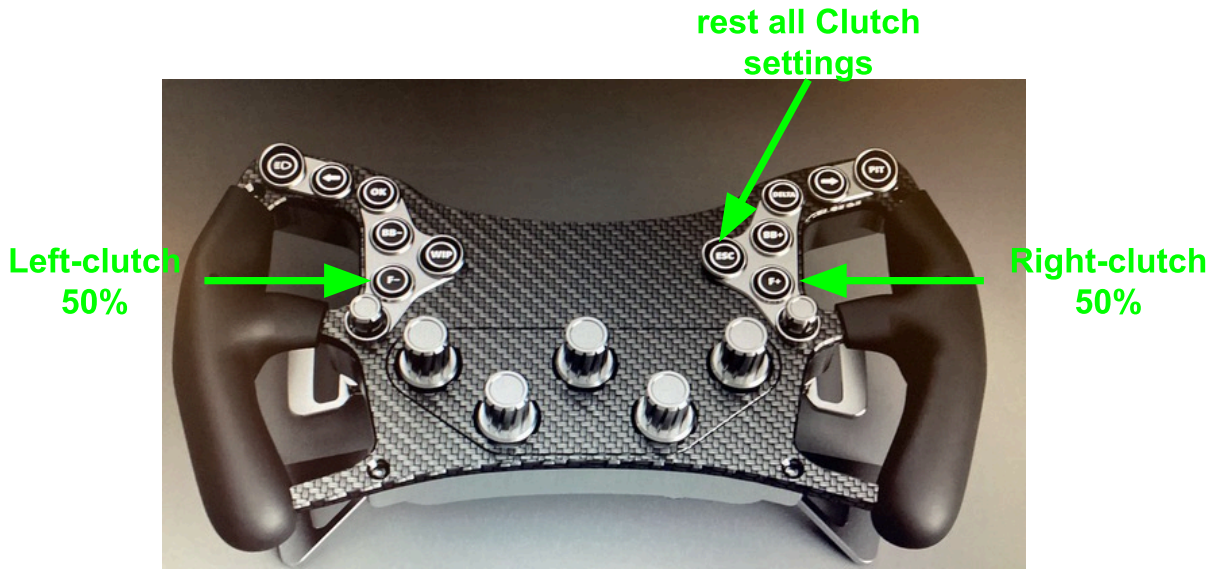
with the setting. If you rotate clock-wise you will increase the maximum value of the clutch you hold pulled.

You store this setting into the permanent memory of your ASR-ONE by pressing the Rotary 2 button. This kicks you out of the Programming mode at the same time.

Double-Clutch mode: setting the maximum Clutch value, PART-2:

Once you are in clutch-programming mode, you can set the maximum value of your Clutch to half of the full range by pressing Button 6 for the left CLutch-Paddle and Button 12 for the Right Clutch-Paddle.

- What is this used for? This is to help you to jump faster close to the clutch bite-point, when you are adjusting it in Double-Clutch mode as described in ***PART-1*** of ***Setting the maximum Clutch value***.



To RESET the Clutch maximum settings you can press Button 11. Thereafter you **need** to fully engage and release both Clutch-Paddles once for their re-calibration, to restore correct functionality.

“

Double-Clutch mode: setting the maximum Clutch value, PART-3:

In “Double-Clutch” Mode you can adjust the maximum value of the CLutch you fully engage at any time even if you are **not** in clutch-programming mode.
The difference to the ***Setting the maximum Clutch value, PART-1*** is, that here you will **not** store this adjustment into the permanent memory of your ASR-ONE.

Nonetheless if you like to store this adjustment into ASR-ONE permanent memory, you can do this by entering clutch-programming mode, by pressing Rotary 1 and Rotary 3 buttons at the same time for more than 4 seconds and thereafter leaving clutch-programming mode by pressing Rotary button 2 again.

“

Sequence Programming Mode:

ASR-ONE offers programming “sequences of button presses” to the Buttons 1 to 12.

In order to Program a Sequence to a Button, you need to enter Sequence-Programming Mode as described under chapter Special Functions, by pressing the Rotary Buttons 4 and 5 at the same time for longer than 4 seconds.

Once you are in Sequence-Programming mode the next Button you press out of Button 1 to Button 12 is the “initial Button” that stores the sequence you like. Thereafter press Button by Button the sequence of choice to store under the “initial Button”.

You complete the association of the sequence by pressing the “initial Button” once you are ready again.

You can repeat this sequence programming for the next Button of choice.

To store all programmed sequences you leave the Sequence-Programming Mode by pressing Rotary Button 2.

To delete a programmed Sequence you enter Sequence-Programming Mode, then press the Button of which you like to delete the associated sequence, thereafter leave Sequence-Programming Mode by pressing Button 2.

May there be Light

Each of the 12 Buttons and the all five Rotary heads are fully RGB background illuminated.

The illumination can be fully controlled by the SIM-Hub, as it is powered by an integrated Arduino-Nano.

This allows you through the Sim-Hub to connect and control the button illumination from your simracing game.

Before you start, ensure the **CH340 serial driver for the Arduino Nano** is installed to your computer. You may download it from here:
https://www.wch-ic.com/downloads/CH341SER_ZIP.html
or here:
https://learn.sparkfun.com/tutorials/how-to-install-ch340-drivers/all

Sample code for the Simhub looks like this:

```
[InputStatus.JoystickPlugin.AmperRacing_Wheel_B01]
```

or

```
if([InputStatus.JoystickPlugin._AmperRacing_Wheel_B14.pressed]&&
      [InputStatus.JoystickPlugin._AmperRacing_Wheel_B14])

{

      if(timesincelastevent([InputStatus.JoystickPlugin._AmperRaci
      ng_Wheel_B14.pressed].pressed)>5)]

}
```

Trouble with the Clutch

In case you experience trouble with your Clutch do the following:

1. Do a power cycle
2. Ensure your USB port can deliver 2A of Power
3. Ensure you have only ASR-ONE at your USB-HUB
4. Turn the brightness of all LEDs down
5. ***Enter Clutch-Programming MODE*** by Push the Rotary Buttons 1 and 3 at the same time for longer than 5 seconds.
6. Press Button 11
7. fully pull and release the Left-Clutch and the Right-Clutch
8. **Leave** Programming by pushing the Rotary 2 button.

Now all shall be good again.

What if not?

1. Check if the Magnets are still there - if not call us
2. Did you drop ASR-ONE - if so call us

AmperSimRacing tools

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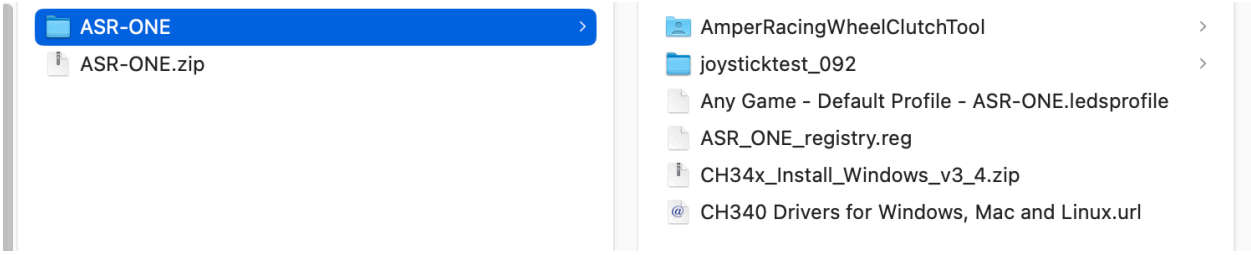

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  is a archive containing the arduino serial driver for SIMHUB
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  is the same, but you download directly from the distributor
- **AmperRacingWheelClutchTool**
  is a folder with a AmperSimRacing Java tool to read out the steering wheel clutch - you need to have Java installed on your PC. (processing source code is included if you are interested). Java can be downloaded and installed from Oracal:
  https://www.java.com/
- **Any Game - Default Profile - ASR-ONE.ledsprofile**
  is a SIMHUB example for an led-profile
- **ASR_ONE_registry.reg**
  is the windows registry for the steering-wheel, in case it is not correctly identified by your PC, you can execute it and it shall install automatically on your pC and update your registry automatically.
- **joysticktest_092**
  Pointy's Joystick Tester is a joystick tester showing the full 48 Buttons of your ASR-ONE. Source:
  http://www.planetpointy.co.uk/joystick-test-application/

More usefull tools

Here you find an online hardware test app (this is third party, hence we are not responsible for it, please be sure you have your computer protected):

https://hardwaretester.com/gamepad

SimHub NCalc wiki:

https://github.com/SHWotever/SimHub/wiki/NCalc-scripting---Introduction
https://github.com/SHWotever/SimHub/wiki/NCalc-scripting---Language-basics

https://github.com/SHWotever/SimHub/wiki/NCalc-scripting

For the USB HID experts only

HID Definitions: