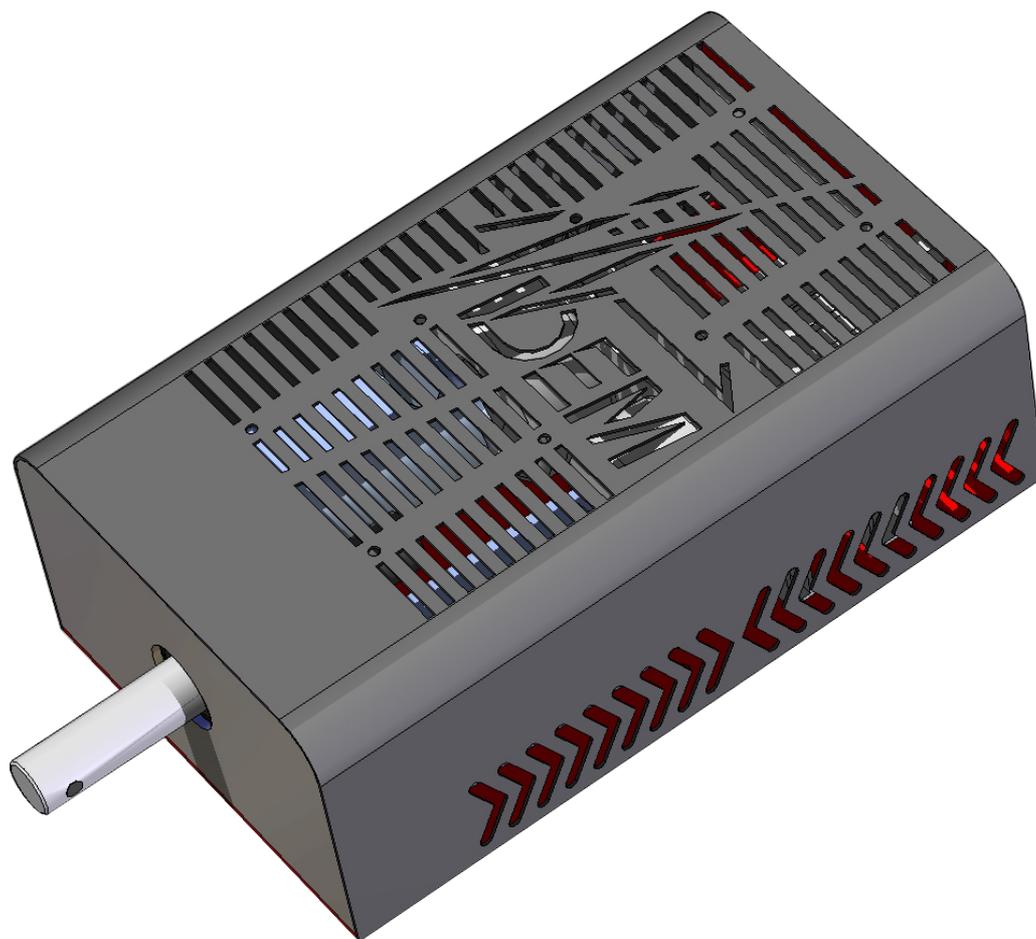


**DRS INTEGRALE
PROFESSIONAL FORCE FEEDBACK
STEERING SYSTEM MANUAL**



WARNING

Please read carefully this manual and store it in a safe place before you use this product: failing to comply the instructions written below might lead to an erratic behaviour from the peripheral, failures and/or damages to you.



POWER SOURCE

- Connect the steering system only to an electrically grounded system.
- Do not use any adapter without ground.
- Make sure that the main adapter's power cable is perfectly inserted into the wall socket.
- If you are not going to be using the steering wheel for an extended period, disconnect the mains adaptor from the wall socket.



ELECTRIC SHOCK

- Always use the steering wheel in a dry location.
- Do not spill any liquid on the product or its connectors.
- Do not throw the base onto a fire and do not expose it to high temperatures.
- Do not twist or pull the connectors and cables.
- Do not open the cover nor tamper with the steering wheel's internal components.
- If the steering wheel is operating unusually (if it is emitting any abnormal sounds, heat or odours), stop using it immediately, disconnect the power cable from the socket and disconnect the other cables.



HIGH TEMPERATURES

- The steering wheel might reach high temperatures during its use.
- Pay maximum attention before touching the chassis after an intense use.
- Keep the steering wheel in a safe place after its use, far from children's reach.



AIR VENT

- Do not cover the fan placed on the top of the chassis nor try to stop it while its working.
- For optimum ventilation position the base at least 15 cm away from any wall surfaces.
- Do not place the base in any tight spaces.
- Do not insert any object inside of the openings on the top of the fan.



HEALTH RISKS

- Playing with a force-feedback steering wheel may cause muscle or joint pain.
- Be sure to be in good psycho-physical conditions before using the steering wheel.
- Set maximum gain according to your physical condition.
- Avoid lengthy gaming periods.
- Take 10 to 15 minute breaks after each hour of play.
- Stop immediately using the wheel if you feel any fatigue or pain in your hands, wrists, arms,

feet or legs. Consult your doctor if these symptoms happen again.

- During games, always leave both hands correctly positioned on the steering wheel (not included) without letting it go completely.
- Never place your hand or arm inside the steering wheel (not included).
- Check the steering wheel base is carefully clamped.
- After each use, put the steering wheel (not included) in its original place, so to prevent any unexpected movement at the beginning of the next gaming session.

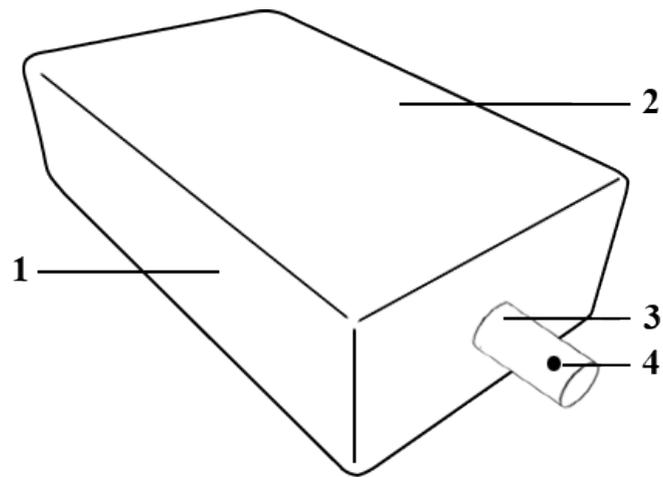


To be handled only by users
16 years of age or older

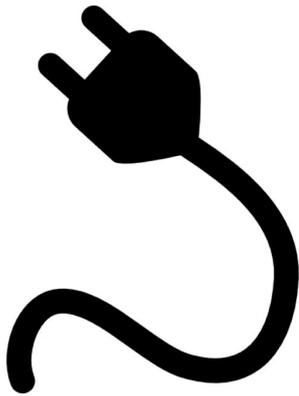


Heavy weight! Pay the maximum attention
while handling the base.

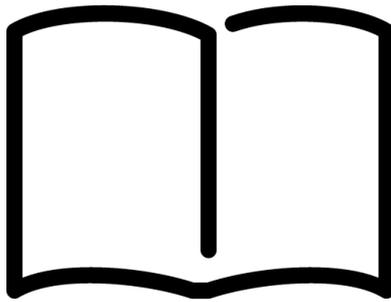
CONTENT



- 1. Base
- 2. Fan
- 3. Steering shaft



Power cable



User manual



USB cable

BASE INSTALLATION

The DRS Integrale base can be mounted on a table or on a cockpit using the holes available on the lower part of the base itself.

Use only the screws provided in the package.

SOFTWARE INSTALLATION

The DRS Integrale steering system works in a different way compared to many peripherals currently available on the market. As such, it is mandatory to read carefully the following explanations in order to configure properly the base and avoid any kind of malfunctioning.

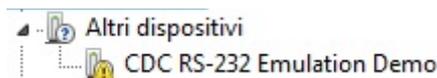
Many of the operations described down below will have to be executed only once: at the end of the initial configuration, the base usage will require only to start the proper application.

- **Communication driver:** in order to be properly recognized by the computer, the DRS Integrale base requires the installation of a specific driver. Usually, this driver is downloaded automatically as soon as the peripheral is connected under Windows 7, while it is already available under Windows 8.1/10.

Should the operative system report that it was not possible to find a suitable driver, install it manually following this procedure: press both **Win + R** keys on your keyboard (the Win button is the one with the Windows logo, down on the left). A window will open: type in the following command.

`devmgmt.msc`

Click Enter, then right click with your mouse on CDC RS-232 Emulation Demo and select properties.



Reach the Driver label, choose Update driver and click on Automatic research.

The computer should then download the most recent version available for the driver.

If not, be sure to run a Windows Update with the base connected to your PC: it should find the Microchip driver required for the base to work.

- **DRS Integrale driver:** download the installation file from the following address:

bit.ly/drs_drv_216

Extract the folder inside of the .zip file and open it: you will find two files inside.

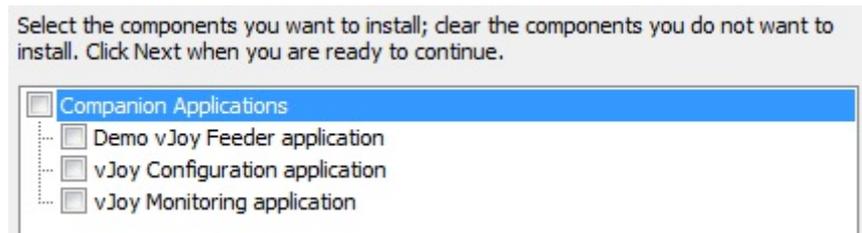
Double click on DRS_Integrale_216 file to install it. If prompted to, mark it as trusted and click on Install.

Would you like to install this device software?

Name: Shaul Eizikovich Human Interface Device ...
Publisher: Shaul Eizikovich



During the installation process you will be prompted if you want to install some companion apps too: deselect all of them and click on Next.



Complete the installation process clicking on Install. Do not double click nor rename the vJoyInit file: should this happen, some games might not work properly. Once the operation is completed reboot your PC.

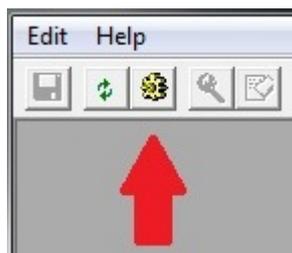
WARNING: on rare occasions it might happen that the installation process gets stuck and does not end even after 5 minutes of waiting. Should this situation happen to you, close all the other applications open on your PC, then choose to restart the system. Windows should report that there still is one application waiting to be closed. Click on Cancel in that window to stop the reboot procedure, this should make appear the message of correct installation. Reboot then the PC.

If the installation fails, instead, it means that there are some problems with you computer due to previous installation of other application that didn't complete properly: contact customercare@dem.sm for further instructions.

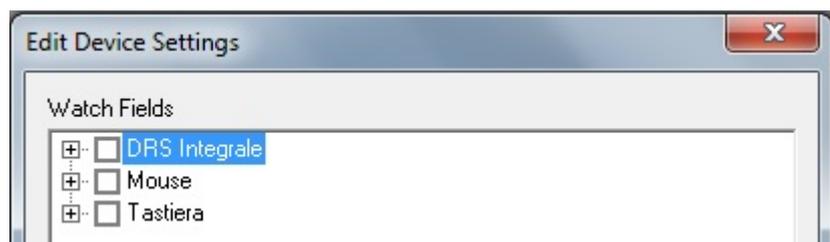
- **DView:** download the DVlew configuration file from the following address:

bit.ly/drs_diview

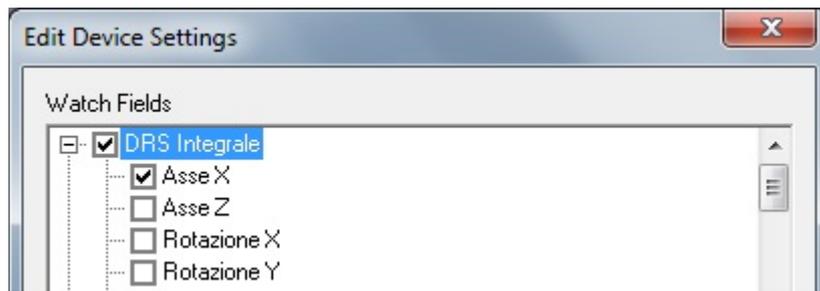
Double click on the executable to start the program, then click on the gear icon on the top left.



Remove all the mark (if present), then click on the + next to DRS Integrale.

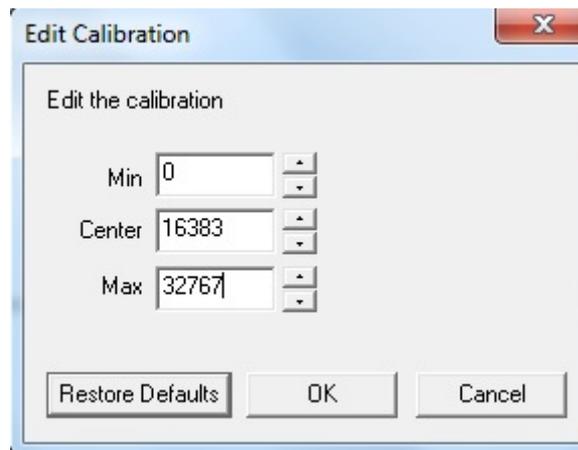


Select X Axis.



Click on Ok. The application will now show a bar with some vertical lines: click on it with the right mouse button and select “**Calibration...**”. Fill in the following values:

Min 0, Center 16383, Max 32767



Click on OK to complete the first part of the steering wheel calibration process. Let DIView open, as it will be used in the next step to complete the steering configuration.

- **DRS Integrale configurator:** download the DRS Integrale configurator from the following address:

http://bit.ly/drs_cfg_160412

(have a look on [our website](#) frequently to download the most recent version available of the configurator)

Double click on the DRS Integrale file to launch the configurator: you will have to open the file everytime you will use the steering wheel.

If the base is properly configured go to step 2, should instead appear the message Serial port not acquired go on with step 1.



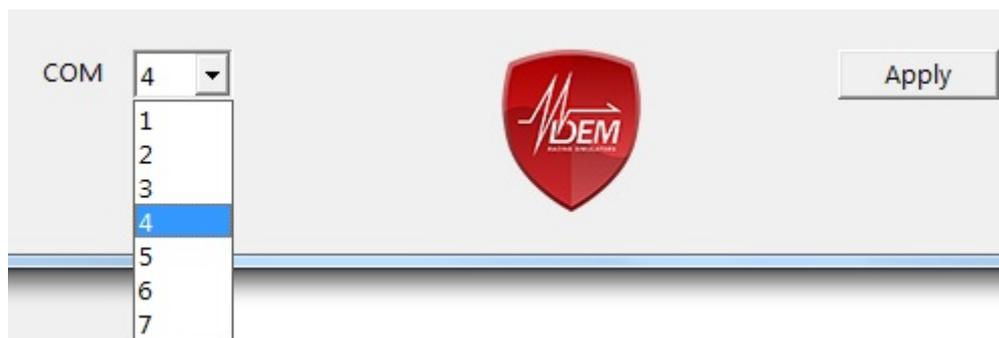
1. Click on Ok, then press both **Win + R** keys on your keyboard (the Win button is the one with the Windows logo, down on the left). A windows will open where you will have to type the following command:

devmgmt.msc

Click on Ok: Device management window will open. Double click on **Ports (COM & LPT)**, then look for USB Serial Port. Right click on it and choose Properties: in the window that will open, check that Producer reports the name **Microchip Technology, Inc.** If not, repeat the operation for the following device listed under **Ports (COM & LPT)**. Keep in mind the COM port assigned to the device, then close the window.

WARNING: the configurator only accepts ports from 1 to 7; if the listed port is above that number, after clicking on Properties select Port settings, Advanced and choose a COM Port Number from the dropdown menu. Click on OK and the base will now use the selected port.

Go back to the DrsIntegrale configurator, select the correct COM port from the dropdown menu on the left, then click on Apply. The steering wheel should emit a mechanical sound to report that the communication is now working and the Serial port not acquired should not appear again.

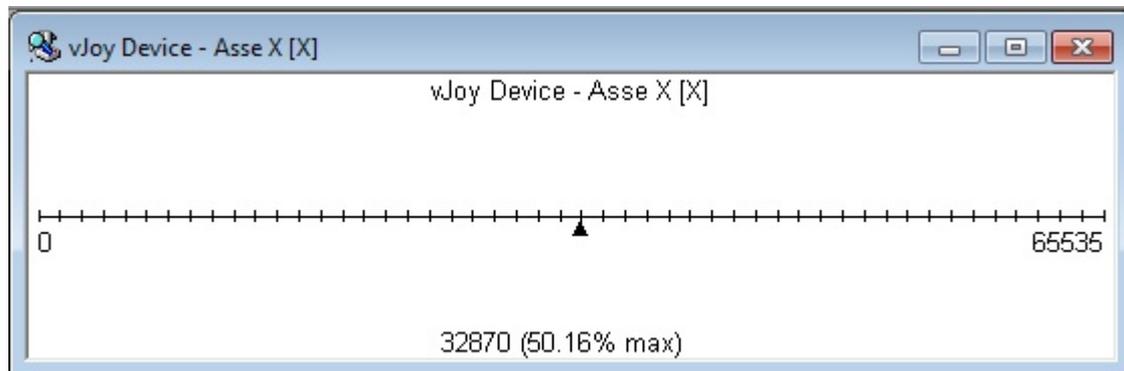


2. It is now possible to mount the rim and calibrate the central point. This operation requires again DView, that we left open in the previous step. Rotate the steering shaft completely to the left and to the right to reset the center position: this operation will have to be performed every time the steering wheel is not centered at the first use. DView will show the cursor moving from the current position to the center: should this not happen, it means that the steering wheel is ready for the next step.

Move the steering shaft so that it is as close as possible to the value 50.00%.

WARNING: we strongly suggest to fix the rim only after that you found the center position

as close to 50.00% as possible. If your steering rim is not in a horizontal position for a DIView value of (around) 50.00%, remove it from the shaft and mount it again. To calibrate the center always refer to the value reported by DIView, not to the position of the real steering wheel. If not, the software might detect that you are too far away from the center and won't let you go any further with the calibration process.



Use the **Zero** parameter in the configurator to change the central position of the rim, then bring the cursor back on 50.00% and repeat the operation until the rim is perfectly centered.



After getting close enough to the center (the real steering wheel is horizontal for values between 49% and 51% in DIView), keep the rim horizontal and fine tune its position using only the Zero parameter.

WARNING: the driver implements a steering position check that prevents sudden movements in case the user sets low degrees of rotation. For this reason it is mandatory to check DIView position while centering the steering wheel and not its real one. If distance from 50.00% is too much, the following window will appear on screen: click on Cancel and check cursor's position in DIView.



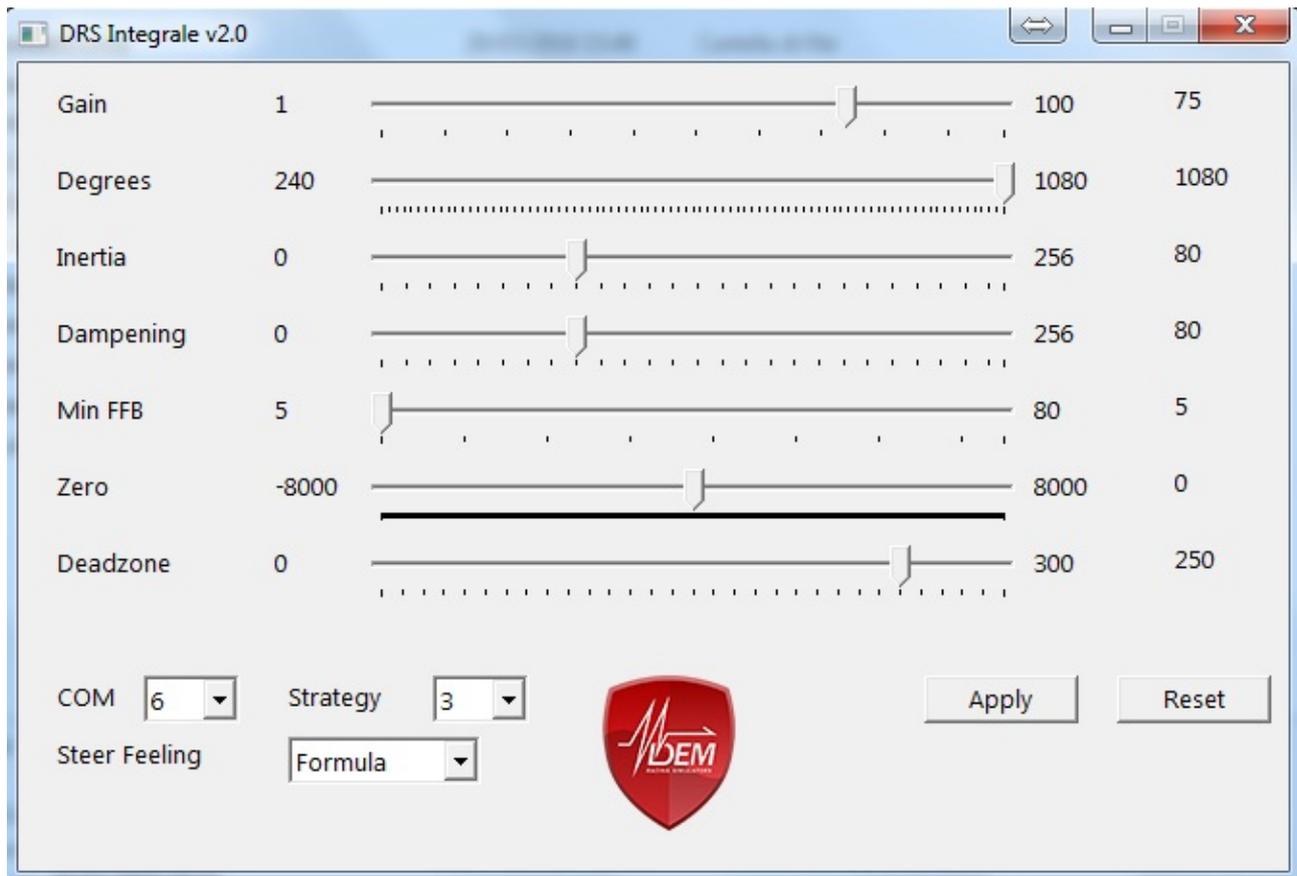
The calibration process is now complete and it won't be necessary to repeat the previous steps for its use. We suggest to always connect the base to the same USB port, so to prevent Windows from assigning a different COM port to the device. Should this happen, repeat the procedure explained in step 1.

DRS INTEGRALE CONFIGURATOR SETTINGS

The DRS Integrale configurator is an application that allows the communication between the game and the base. It contains different values to customize the driving experience to your own taste and to adapt the base for use by newcomers and experienced users.

Each parameter can be modified in the following ways:

- moving the cursor with mouse
- clicking with mouse on the vertical lines next to the cursor to move it of 10 units
- clicking with mouse on the cursor and using left/right arrows on the keyboard to move it of 1 unit



- **Gain:** it sets how powerful motors are. Start with low values (30) if you have no experience with the peripheral.
- **Degrees:** it sets steering wheel degrees of rotation, from 240 to 1080. All the most recent softwares (Assetto Corsa, iRacing, Project CARS, rFactor 2, Dirt Rally) let the user use the whole range of rotation, adapting each car the degrees set: as such, we suggest to set this value to 900 or 1080.
- **Inertia:** it introduces or removes the software inertia effect to adapt the base to different rim's size. Increase the value for lightweight and small diameter rims, decrease it in case of heavyweight or large diameter rims. Set it at 128 to disable the software effect.
- **Dampening:** it sets the steering wheel dampening. Set to 0 to have a faster responde from the base, increase it if you feel vibrations or sudden jolts from the force feedback.
- **Min FFB:** it sets the motors reaction speed. Set to values equals or greater than 60 for gain values equals or lower to 50, set to values lower than 60 for gain values higher than 50.
- **Zero:** it sets the steering wheel central position. See step 2 in the previous chapter for further details.
- **Deadzone:** anti dead zone filter; it smooths potential oscillations that might appear while

using high gain values. Those oscillations depend exclusively from the force feedback provided by the simulator: low values can lead to a slow response from the base, high values (from 250 on) offer a quicker repose with the risk of introducing oscillations (especially for high gain values).

- **COM:** it sets the base communication port. Always connect it to the same USB port to decrease the risk of having to set this value again. See step 1 in the previous chapter for further details.
- **Strategy:** it sets the desired strategy of work for the motors.
 1. Motors always are in counterphase: one pushes in one direction, the other in the opposite one. Slower reactions, but no play feeling between gears.
This strategy is aimed at those with less experience that want to get used to the wheel.
 2. Motors are in counterphase up to a point decided by the deadzone setting. If the force feedback is higher, one motor turns off while the other works; for much higher FFB values both motors push in the same direction.
 3. Motors are always in phase (they always push in the same direction). This might lead to some play between the gear dents (tenth of degrees); some optimizations are applied. Min FFB suggested values are between 5 and 10.
 4. Motors push to the maximum: this is the most powerful mode available in the steering wheel and it is aimed at those who want to get the maximum force out of the system.

Please note: even if you feel some play between gears, there is no deadzone in the signal sent to the simulator as the encoder is mounted on the steering shaft and it always records even the smallest input from the driver.

- **Steer feeling:** it simulates different steering boxes. Four values are available: Formula, Race, Sport and Luxury. The first one offer the most direct feedback, the latter simulates the feeling of driving a luxury car with smoother effects.
- **Apply:** it applies the new values. The steering wheel must be centered.
- **Reset:** reset the configurator to its default values.

SIMULATORS' SETUP

With the V2 configurator also come several optimizations for some of the most used simulators. Find below how to configure them and where to install additional files.

ASSETTO CORSA

Open the provided *assettocorsa* folder and copy "system" folder in C:\Program Files (x86)\Steam\steamapps\common\assettocorsa (or your Steam installation folder).

Do a backup of the *assetto_corsa.ini* file in case you want to revert back.

You can also manually update the file: look for the following line

```
[FORCE_FEEDBACK]
FF_SKIP_STEPS=1
```

and change it to

```
[FORCE_FEEDBACK]
FF_SKIP_STEPS=0
```

You can also experiment with the following line:

```
[FF_EXPERIMENTAL]
ENABLE_GYRO=0
```

Set it to 1 to enable gyroscopic effect (still an experimental setting in Assetto Corsa). Remember to check this values after each software update or Steam integrity check as the file might get overwritten and these settings reverted to default.

Once in-game, set minFFB to 0% to prevent any unwanted oscillation.

AUTOMOBILISTA

Open the provided *automobilista* folder; copy "Plugins" folder in C:\Program Files (x86)\Steam\steamapps\common\automobilista (or your Steam installation folder).

Once in game, go to Options, select Controls and set

```
ENABLE CUSTOM STEERING RANGE <No>
```

rFACTOR 2

Open the provided *rfactor2* folder; if you own the game on Steam copy "Bin64" and "UserData" folders in C:\Program Files (x86)\Steam\steamapps\common\rfactor2 (or your Steam installation folder). If you still own the standard version of the game, instead, copy "Bin64" in C:\Program Files (x86)\rFactor2 (or your rFactor 2 installation folder) and "UserData" in C:\Users\YOUR_NAME\Documents\rFactor2 Data (or your rFactor 2 Data folder).

Start the game, then go to OPTIONS; click on LOAD and select DRS. Now activate VEHICLE SET. Also set:

```
CAR SPECIFIC FFB MULT <= 1.00
FFB SMOOTHING to 0.0%
FFB MINIMUM TORQUE 0.0%
```

KNOWN ISSUES

PROBLEM	DESCRIPTION	SOLUTION
Steering wheel not working after unplugging a USB device.	If you remove a USB device while the DRS Integrale configurator is working, the peripheral will stop communicating with PC.	Click Apply again on the DRS Integrale configurator.
The steering wheel turns all of a sudden to one side.	If the user keeps steering after reaching the maximum degrees of rotation (forcing the base lock mechanism) the steering wheel will move fast to the physical limit of rotation.	Do not keep steering with force after reaching the end of rotation. Close the DRS Integrale configurator, center the wheel and start the configurator again.
At first start the steering wheel is not centered.	Even if the steering wheel was properly calibrate, when the user starts driving he/she needs to keep the wheel on the left/right in order to go straight.	Move the steering wheel all the way left or right to reset the center position. There's no need to restart the configurator.