REXING FORMULA WHEEL

"MAYARIS"

QUICK GUIDE

ILLUMINATED PUSHBUTTON x 10

THUMB ENCODER x 6

MAGNETIC SHIFTER x 2

RGB LED BRIGHTNESS ADJUST
"on the fly" RBG brightness adjustment

SLAVE CLUTCH
clutch bite adjusts maximum travel

MULTISWITCH
4 way joystick, encoder & center push

RGB LEDS x 17

USBD480 LCD DISPLAY

EXTRA PADDLE x2
with push and pull option
(OPTIONAL)

CLUTCH BITE POTENTIOMETER
adjusts maximum travel of slave clutch
see Chapter 5 for instructions

MASTER CLUTCH
see Chapter 4 for calibration

ANALOG JOYSTICK
with center push
for calibration see Chapter 4

1. GENERAL

- Keep the steering wheel away from water and humidity.
- Avoid long exposure to direct sunlight to prevent degradation of carbon fiber finish.
- Do not try to open your steering wheel.
- Do not try to remove the hub from the back of the steering wheel.
- Make sure the coiled cable is loose rather than very tight, to ensure the cable lasts longer and doesn't get damaged.
- All measures are expressed in metric units. You will need metric tools for nuts and bolts.
- Rexing Formula Steering Wheel **requires a <u>powered USB hub</u>** for connection to PC.

2. ATTACHING THE WHEEL TO THE BASE OR QUICK RELEASE

Never try to remove these 3 screws!

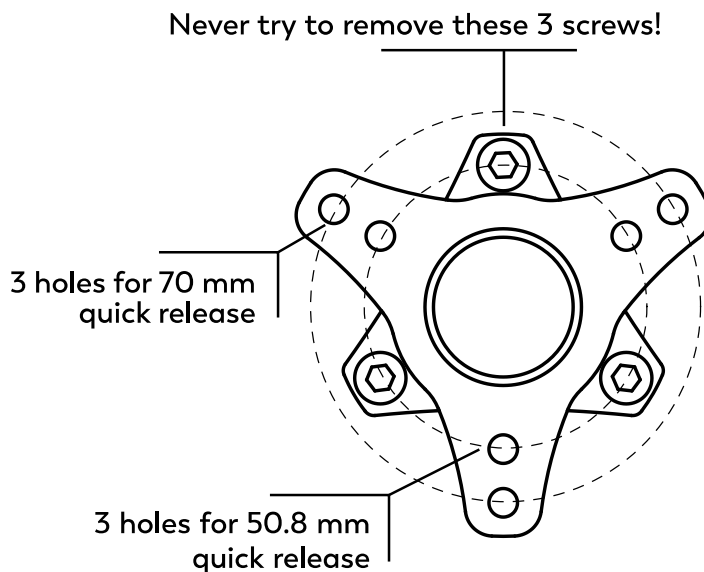3 holes for 70 mm quick release

3 holes for 50.8 mm quick release

Illustration 1: back view of the hub on the steering wheel
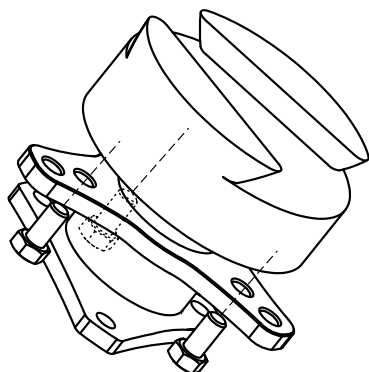
2. ATTACHING THE WHEEL TO THE BASE OR QUICK RELEASE

Illustration 2: attaching the steering wheel hub to bases or quick releases that have threads

Illustration 3: attaching the steering wheel hub to formula type bases or quick releases

Use M5 x 10 mm bolts for bases or quick releases that have threads, for example: Simucube, Fanatec Podium Hub, NRG or similar. We recommend to use the supplied washers.
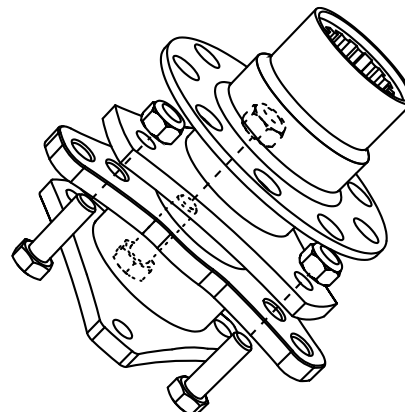Necessary tools: 8 mm wrench key

Use M5 x 16 mm bolts and M5 nuts for bases or quick releases such as Q1R and most formula-type quick releases (Lifeline, Go-Race, Sparco etc.). We recommend to use the supplied washers both for bolt and for the nut.
Necessary tools: two 8 mm wrench keys or one 8 mm wrench key and one 8 mm socket wrench key.

For quick releases that have 6 holes, it is enough to use only 3 holes.
For Fanatec Podium Hub it is enough to use 3 holes, either on 50,8 or on 70 mm diameter.
The best way to secure the screws is to start them with your fingers, and then tighten them with a wrench key.

Tip: To avoid damaging the surface and components under and near the hub, we recommend covering it with some masking tape while inserting and securing the bolts.

3. INSTALLATION TO PC

Rexing Formula Steering Wheel **requires a powered USB hub** for connection to PC. Plug the supplied coiled USB cable into the wheel on the one end and a powered hub on the other end. The powered USB hub should be plugged directly into your PC back USB connector.

## 4. ANALOG AXES CALIBRATION

To calibrate both your analog joystick and the clutches, Windows calibration can be used. When your Rexing wheel connected to the PC, go to Control Panel and choose "Devices and Printers" or "View Devices and Printers". Find the "Rexing game device" and right click on it. Choose "Game controller settings".
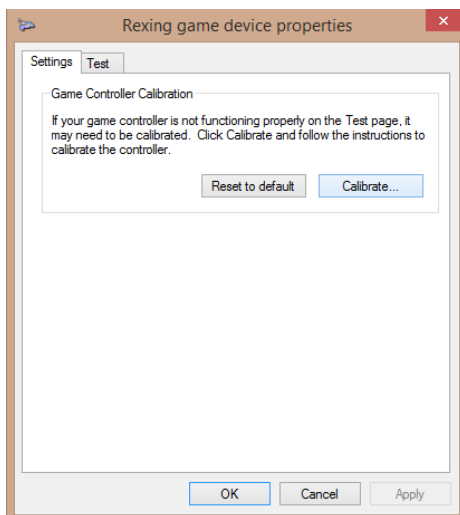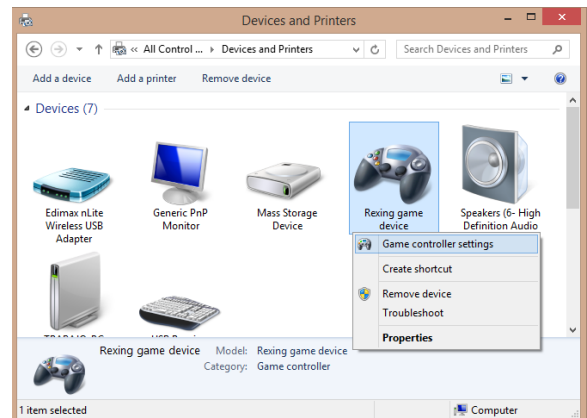
In the next window select "Rexing game device" and click on Properties. In "Rexing game device properties" window, choose "Settings" tab on the top of the Window and click on "Calibrate". Device Calibration Wizard will open, click "Next".

On the next screen just press any button on the wheel without moving the joystick or any paddles. Axis calibration screen will open. Rotate the analog joystick a couple of times and press any button after that.
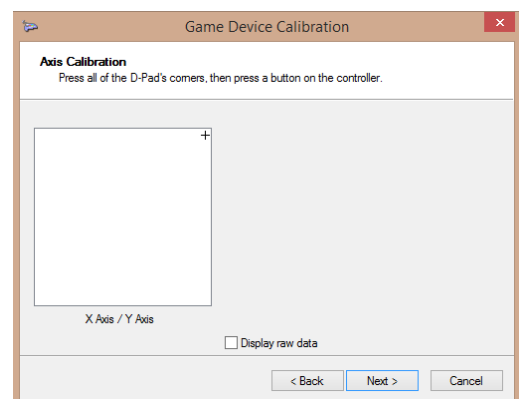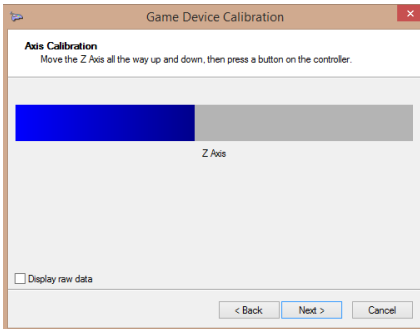
Follow the instructions until you get to next Axis Calibration screen.

IMPORTANT: Before this step the <u>clutch bite potentiometer</u> must be turned all the way to the <u>right</u>. <u>Use only the **left** clutch paddle </u>in this step!

Pull the left clutch paddle all the way and release, then press any button on the wheel again. Don't press too hard on the paddle limit, just slightly touch the end position and release. When this is over, click on Finish and your calibration process is finished.

If you're not happy with the calibration, go back to "Rexing game device properties", and choose "Reset to default" in Settings section. Then click on Calibrate and start the process again.

NOTE: Clutch paddles can be calibrated from within some games (such as iRacing). In that case, clutch bite potentiometer must also be moved all the way to the right and only the left clutch paddle can be used for calibration.

NOTE 2: We recommend adding a bit of 'dead zone' to Z axis (clutch paddles). 3% should be OK. This is also done within games.

5. CLUTCH BITE SETUP

Clutch bite point should be set up while in a game. Once you enter your car, make sure the clutch bite is turned FULL to the right (clockwise). Then follow this procedure:

- fully depress the slave clutch (left)
- apply throttle and first gear
- car should be standing still because the clutch is fully engaged
- holding the throttle and clutch fully engaged and having the car in the first gear, slowly move the clutch bite potentiometer to the left (anti-clockwise) - very slowly
- observe the car movement - once the car starts moving, that's your bite point, so the position of the potentiometer now is your bite point

Now the starting procedure should be as following:

- fully engage **both** clutch paddles
- switch to first gear
- apply throttle
- when you want the car to launch, fully release the right clutch while holding the left clutch full depressed
- you car will now start moving, and when it reaches desired velocity (in half to one second), slowly release the second (left) clutch

You can continue experimenting to find your ideal position.

NOTE: Clutch bite point can be different for different vehicles even in the same game. So we encourage you to experiment.

6. SOFTWARE INSTALLATION

All buttons and encoders are functional as soon as the steering wheel is connected to the PC.

For the LCD, first it is necessary to install the LCD drivers. Download them here:
https://www.dropbox.com/s/e7y49pvwk8imbyf/USBD480_installer_win10.exe

Secondly, you can choose among these free of paid apps to enable full functionality of LCD, LEDs and pushbutton lights:

| SOFTWARE	RUNS USBD480 LCD	RUNS RGB LEDS	RUNS BUTTON LIGHTS	DOWNLOAD LINK
Simhub	YES	YES	YES	https://www.simhubdash.com/download-2/
Z1	YES	YES*	NO	https://www.z1simwheel.com/dashboard/index.cfm
Simdash	YES**	YES	YES	https://www.symprojects.com/downloads
Joel Real Timing	YES	NO	NO	https://joel-real-timing.com/index_en.html

 * with the current version of Z1 we don't recommend setting LEDs brightness to a value higher than 40%
** requires SimMonitor paid license

For LCD it is possible to use any other USBD480 compatible app. Once you choose and install one of these apps, follow their instructions to set them up to output data to USBD480 display.

Here is a short example of setting up the integrated USBD480 LCD and RGB and button LEDs to work with Simhub software:

- download Simhub from the link in the section above
- open the app and choose "Dash studio" from the menu on the left
- choose "USBD480" from the top tabs
- check the "Enable display" box
- in the "LED MODULES" on the right of the same screen, scroll down and thick the checkbox next to "REXING"
- now explore the options and settings to your liking
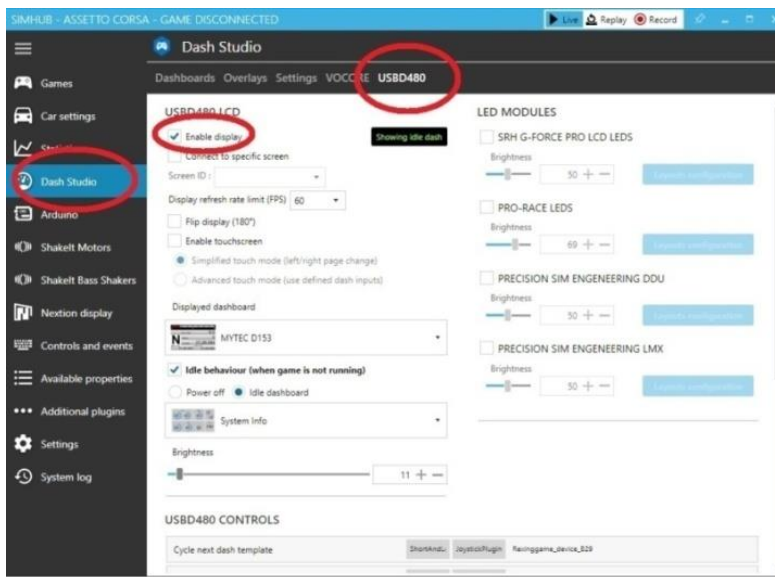
Enable LCD
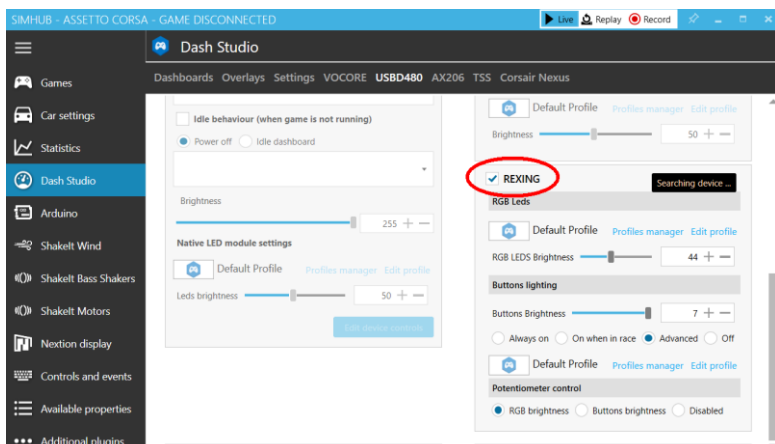
Enable LEDs

In case of screen "flickering", the FPS should be reduced from 60 FPS (default) to a lower value until the flickering stops (values between 45 and 20 should work).
- For Simhub go to "Dash Studio" > USBD480 tab > and set "Display refresh rate limit (FPS)"
- For Z1 go to "Z1 Dashboard Settings" > General tab > "FPS target"

6.1. Using pushbuttons LEDs and RGB LEDs with Simdash (skip this chapter if you're using Simhub)

If you're using an app for the LCD which doesn't also support the LEDs and buttons lights on this steering wheel (such as Z1, for example), you can use Simdash software to configure your pushbutton and RGB LEDs. Simdash offers a wide variety of choices to adapt your LEDs to any vehicle or simulation. In order to do this, first install and open the Simdash app (https://www.symprojects.com/downloads).

Once the wheel is connected to your PC, a green light will appear in the Rexing.eu section within the "Connected devices" menu. The "Configure" button in the Rexing.eu section opens the Configuration Screen with the following options in General settings:

- General settings:

    o Import Settings - opens profiles you previously saved
    o Export Settings - enables you to save the current settings as a profile
    o Clear all Settings - deletes the settings in the current profile
    o Speed Limiter Lights - enables the setup (color and speed of alternating) of the Speed Limiter Lights
    o Quick Config - opens the Shift Lights Wizard (you will be notified that the Quick Config function will delete the configuration of all the LEDs. It is OK to click Yes here if you wish to (re)configure your LEDs).

Quick Config allows the configuration of the 11 RPM LEDs by changing their color and other settings:

    o In order to change an LED's color, just click on a single LED and choose the color.
    o If the "Symmetric" box is not checked, the RPM LEDs will light on from left to right. If it is checked, the LEDs will light on from left **and** right, and continue towards the center.
    o In the From/To section you can insert your vehicle's RPM light range in percentage or RPM value.
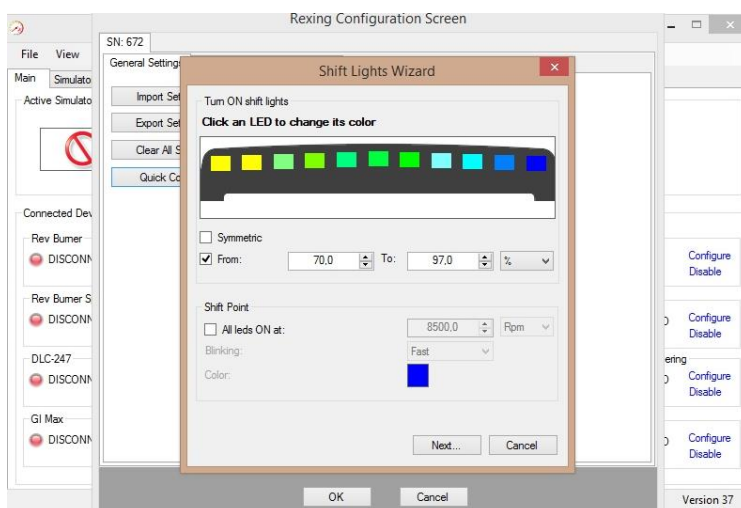
Tip: a good start would be to set the RPM to percentage with values from 80% to 97%, and further adjust it to your wishes.

    o In Shift Point section you can configure the LED settings and set your vehicle's shift point RPM.

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The "Next" button saves your settings from this window and opens a new window, offering to:

- o Disable Speed Limiter lights (no Pit Limiter function on the LEDs)
- o Configure LEDs for pit limiter individually (choose the color and blinking speed or no blinking option for each LED)
- o Configure Alternating Pattern (choose two colors and speed of alternating). The two chosen colors apply to all 11 RPM LEDs.

The "Create Configuration" button saves the current configuration.

- • Lights

In the "Lights" section, click on any single RGB LED configure its function or change its color.

Each LED can be configured to any telemetry data, with the possibility to set more conditions to each LED and to prioritize among them in a desired way. The condition which is higher on the condition list has the priority over the one(s) below. A condition can also be copied using the "Copy" ▣ image, and then Pasted onto another LED by clicking on Paste button. The light bulb icon 💡 is the test icon, applying the set condition directly to the LED on the steering wheel.

RPM LEDs brightness is adjusted using the brightness potentiometer on the steering wheel.
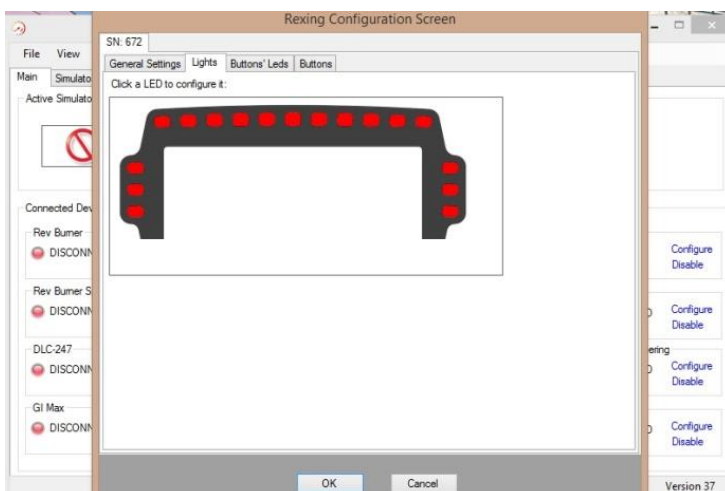
- Buttons' LEDs

In the "Buttons' LEDs" section, click on any single button LED to configure its function. The buttons LEDs have fixed color. Configuration is done in the same way as for RPM LEDs. The "Buttons' Leds" section also enables to adjust the brightness of pushbutton LEDs.
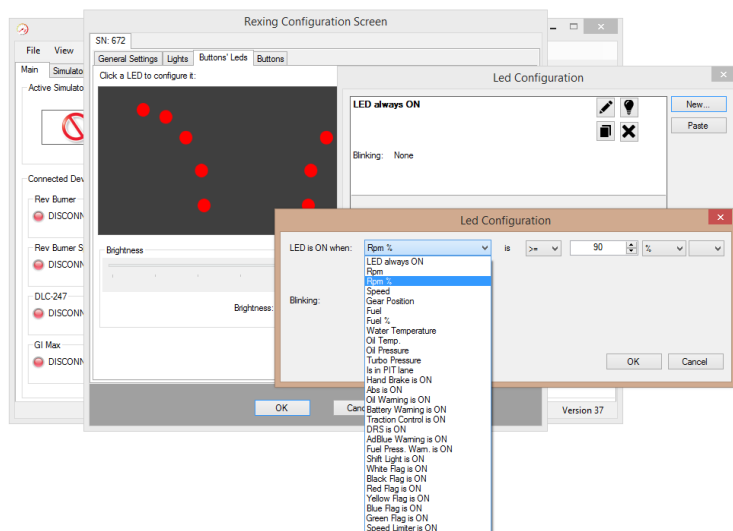

EXAMPLE LEDs SETUP

This is an example of a button LED which is always on, but starts blinking when speed limiter is on.

- In "Buttons' LEDs" section click on a single LED to configure it. Click on "New", and choose the "LED always ON" condition, with Blinking set to None. The next condition you set will come above this condition and will have priority.
- Click on "New" again and choose, for example, the condition "Speed limit is ON". Set Blinking to Normal. This way the LED which is normally on will start blinking when the speed limiter is on.
- Remember to click OK both on the LED configuration screen and on Rexing configuration screen in order to save your settings.

Games like Assetto corsa, ACC and iRacing don't need any additional configuration or plugins to work with SimDash.

Some games, like rFactor 2 and F1 2021, will require an additional step in LED configuration: SimDash will configure the plugin for these games if you go to "Simulations" tab on the main screen in SimDash (next to "Main"). Then navigate to the simulation you want to use, click Configure and follow the simple steps after that.
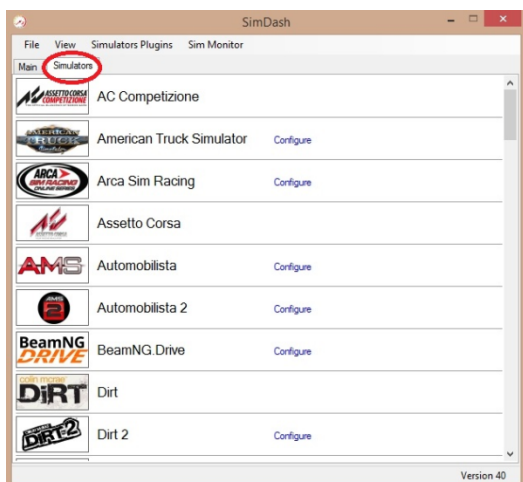
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