DANIEL NEWMAN RACING

RPM Telemetry
LED Guide

SHIFT LIGHTS · FLAGS · EVERYTHING THE CAR IS DOING

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What your telemetry LEDs do

The strip above your wheel or across your dash is the one you look at most, because it is the one telling you when to shift. It does a great deal more than that.

IT SHOWS	WHICH MEANS
Rev lights	Where the engine is, and when to pull the next gear
Redline	A flash when you are holding on too long
Marshall flags	The whole strip turns the flag's colour
The spotter	The side LEDs on the side a car is alongside
Pit lane	Whether your limiter is on, and whether you are speeding
Brake pressure	How hard you are actually pushing
Fuel	What is left in the tank
ERS and energy	Deployment mode, state of charge and regeneration
Turn indicators	On the sims that report them

You do have to sign in

Without an account a banner appears across the top of the page reading **Sign in to use this page**, and underneath it:

"Head to the Home page and sign in to your DNR account to get started."

A **Go to Home** button beside it takes you straight there. Nothing is taken away while you are signed out: the whole page stays on screen below the banner, dimmed and not accepting changes, so you can read what is there. Until you sign in, your lights run the settings DNR ships with rather than yours.

> If your membership does not currently cover these effects, an amber line on the device card higher up the page says so, and it also says your work is safe: *Your membership does not cover these effects at the moment, so your lights are running the settings DNR ships with. Everything you have set here is saved and comes straight back when you sign in.*

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Before you start

Three things have to be true before anything on the next page will work. None of them takes more than a minute, and this guide assumes all three from here on.

1

SimHub, up to date

Everything DNR does runs inside **SimHub**, the free app that reads your sim and talks to your hardware. If you have never installed it, get it from simhubdash.com first. DNR uses new SimHub features as they land, so an old SimHub holds things back.

2

The DNR plugin, installed and signed in

The **SimHub Plugin Installation Guide** covers both, start to finish. Signing in is what unlocks your products: there is no licence key and no code to type. The plugin's home page reads **Plugin Activated** in green when it has worked.

3

A membership, for one setting only

The RPM Telemetry page asks for a signed-in account and nothing more. Every tier reaches it, and there is no padlock on it. One setting inside it is a membership feature: **Specific RPMs**, at the top of the **RPMs** tab, needs **Pit Crew** or above. Without it that section is greyed out and a card above it reads:

> "Pit Crew Member Tier or above is required to access Specific RPMs. If you have subscribed as a Pit Crew Member, ensure you have activated the plugin on the homepage."

A **Become a Member** button sits beneath that line. If you have already subscribed, look at the status line at the top of the plugin's home page, beside the version: the badge there names the tier the plugin is currently unlocking against.

Where to find it

LED DEVICES in the rail down the left, then **RPM Telemetry**.

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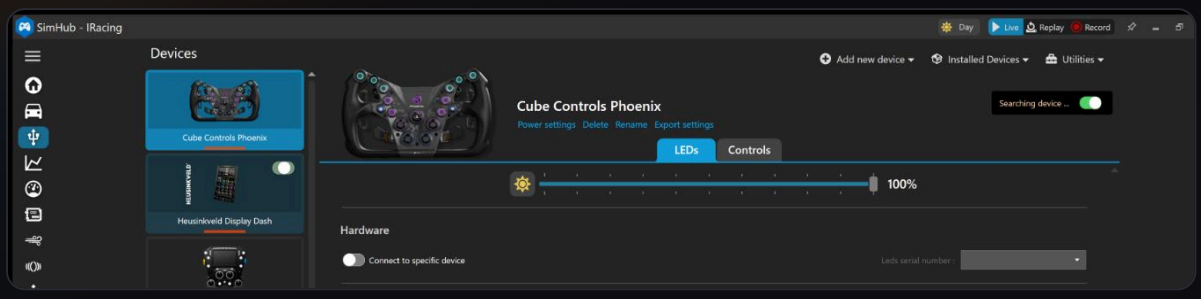
Adding your device in SimHub

SimHub owns the connection to your hardware. Until SimHub can see it, nothing in the DNR plugin can. This is the step people get stuck on, so take it slowly.



SIMHUB, DEVICES. YOUR HARDWARE DOWN THE LEFT, ITS SETTINGS ON THE RIGHT

1 Open SimHub and go to Devices

It is in the icon rail down the far left. With nothing set up yet the page reads **No devices configured yet !**

2 Press Add new device

Top right, or the **+** at the foot of the device list. SimHub opens **Pick a supported device**: what it has already found on your system at the top, a full list by brand underneath. Find yours and press **Ok**.

Not in the list? SimHub does not carry every maker, and it does not carry home built hardware at all. An unlisted device is almost always an **Arduino** build, and it lives on SimHub's own **Arduino** page rather than on Devices. The next page covers that route. If your maker supplied a device file, use **Import device from file** instead.

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If your strip is an Arduino build

SimHub's **Devices** page only lists hardware whose maker ships a SimHub definition for it. A home built device is never on it, and that is not a fault.

DNR profiles run on home built hardware just as well as on a brand name device. The route through SimHub is different, and you take it when your device is not in the **Pick a supported device** list.

1

Set the board up first, with the maker's instructions

Whoever built it owns that part: the sketch, the wiring, and what is enabled in the sketch setup. SimHub's own wiki covers it under **Arduino · Setup**. Come back here once SimHub is talking to the board.

2

Open the Arduino page in SimHub

It is its own entry in SimHub's left menu, not part of **Devices**. Every Arduino on the rig shares that one page.

3

Open the RGB Leds section

SimHub gives an Arduino its own LED sections rather than the **Telemetry Leds** slot a Devices-list device has. The three are **RGB Leds**, **TM1638 Leds** and **RGB Matrix**, and **RGB Leds** is the one for your strip. **Profiles manager** beside it opens the same profile list.

Several boards behave as one device. SimHub aggregates multiple Arduinos into a single device with one LED numbering, so a rig with two boards still has one profile and one set of positions. Give each board a distinct name when you upload its sketch, or telling them apart later is guesswork.

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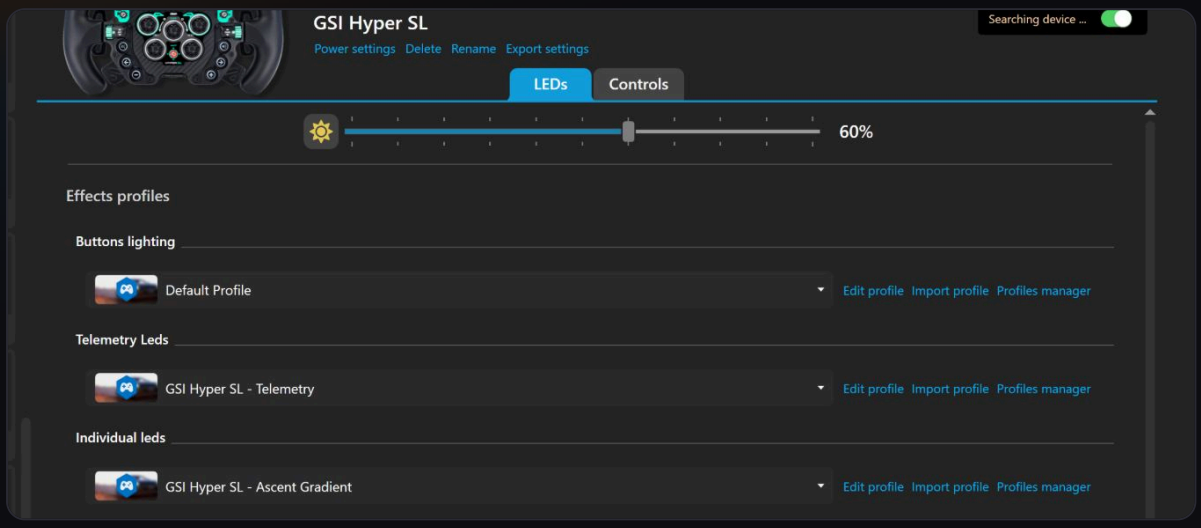
Where the profile goes

Select your device in the list and open its **LEDs** tab. This is the page a DNR profile lands on, so it is worth knowing even though the plugin fills it in for you.



A DEVICE'S LEDS TAB. THREE SLOTS, EACH HOLDING ONE PROFILE

SLOT	HOLDS
Buttons lighting	What your buttons and encoders look like
Telemetry Leds	The rev lights and everything the session drives
Individual leds	Anything drawn across the whole device at once

Each slot has **Edit profile**, **Import profile** and **Profiles manager** beside it. **Import profile** is the one that matters here: it is where a profile you downloaded by hand goes.

> The brightness slider at the top, and **Brightness limiter and balance** underneath, belong to SimHub rather than to us. They cap everything DNR then does, so if your lights are dimmer than you expect, look here before blaming a DNR setting.

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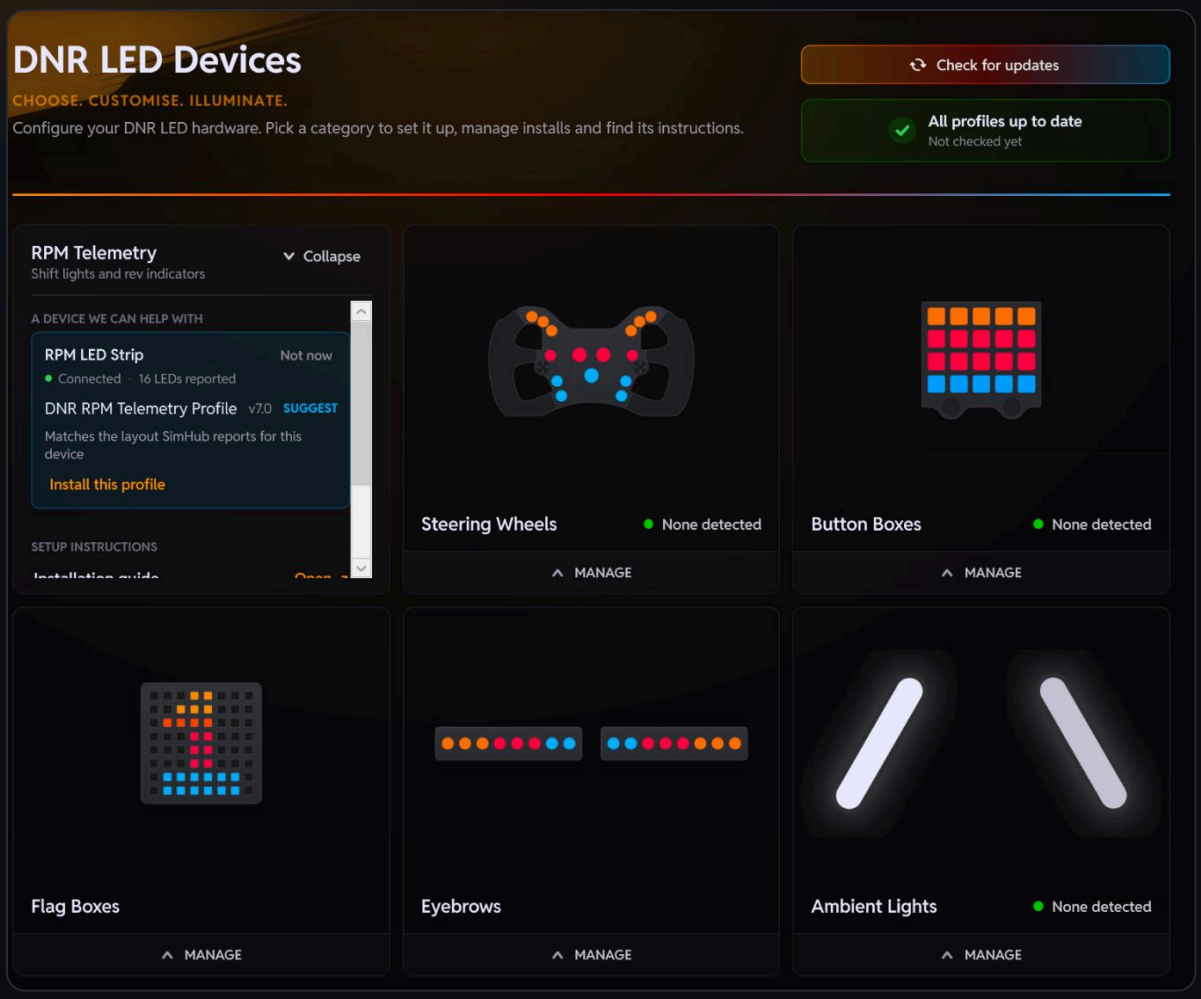
Getting your strip lit

Before any setting in this guide does anything, your device needs a DNR LED profile.



LED DEVICES, WITH RPM TELEMETRY OPENED: THE DEVICE FOUND, AND THE PROFILE BUILT FOR IT

1 **Add the device in SimHub first**

SimHub owns the connection, so the device must exist there first. Set it up in SimHub and check its lights respond to SimHub's own test.

2 **Open LED Devices, press MANAGE on RPM Telemetry**

Your device appears under **Connected Devices**, and above it **A DEVICE WE CAN HELP WITH** names the profile we build for it, marked **SUGGESTED**.

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Getting your strip lit (continued)

3

Press Install this profile

One press installs it into SimHub. Nothing to download or unzip. Where several profiles fit, pick one first: they are alternatives, not additions. It reads your layout as it goes, so the centre and side LED counts on the Configuration tab are set for you.

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Stop SimHub switching your profile

One SimHub setting, and it is behind more "my lights stopped working" reports than any DNR setting is.

SimHub remembers a profile per game and changes it for you. That is useful if you run several sets of lights and a nuisance if you run one, because starting a different sim can leave your DNR profile switched off with nothing on screen to say why.

1 Open Profiles manager

On the LED section your DNR profile is installed in, the same list you installed from.

2 Choose how SimHub is allowed to switch

Automatic profile switching sits on the right of that window:

SETTING	WHAT IT DOES
Disabled	SimHub never switches for you. The profile you picked is the profile you get
Last selected profile, per game	Remembers your choice for each sim, and honours it
Automatic	Switches on its own, by the profile's own game matching

3 Make sure the DNR profile is the enabled one

Each profile in the list has an enable button on its right. Check the DNR one is on. If you have old profiles you will never use again, deleting them removes the thing SimHub could switch to.

If your lights go dead the moment you change sim, this is why, nine times out of ten. Nothing has broken and nothing needs reinstalling.

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Installing a profile by hand

The plugin installs profiles for you, and that is the route to use. This page is the fallback, for a device the plugin cannot offer one for, or a machine that cannot reach us.

1

Download it from your account

Sign in at danielnewmanracing.com and go to **Downloads**. Profiles come as a `.ledsprofile` file. What you can download is set by your membership.

2

Import it in SimHub

In SimHub, open the LED section for your device and use **Import profile** on the slot it belongs to. SimHub owns the profile list; the plugin reads it.

3

Tell the plugin to look again

Back in **LED Devices**, press **Check for updates**. The profile you imported appears under your device, and **Set active** chooses it.

> A profile installed by hand still updates itself afterwards. The plugin recognises it as ours and keeps it current with the rest.

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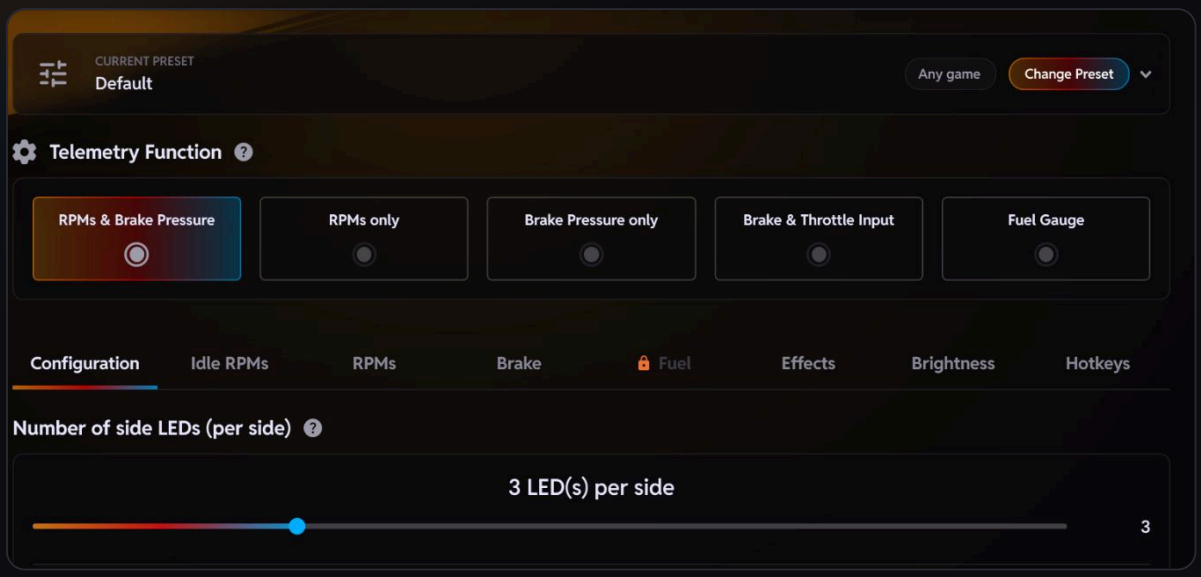
Your devices, and what they share

This is the one idea worth getting straight before anything else, because everything on the page follows from it.



RPM TELEMETRY. THE DEVICE PICKER AT THE TOP, AND EVERYTHING UNDER IT BELONGS TO THE DEVICE YOU PICK

1

Which device are you setting up?

The picker at the top of the page lists every device the plugin has seen. A rig can have several: a wheel with rev lights, a DDU, a separate strip. It sits above the tabs on purpose, because it governs all of them.

2

Some settings are per device

"Everything below applies to this device only. Each device keeps its own side LEDs and its own effect positions."

3

And some reach everything

The shift light behaviour, the colours and the effects are shared. Where a setting reaches further than the device in front of you, the page says so: **These reach every compatible device, not just this one.**

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Your devices, and what they share (continued)

> That split is deliberate. How the strip is **wired** is a fact about one piece of hardware. How you want shift lights to **behave** is a preference, and you want it the same everywhere.

A device you no longer use

"This device is no longer set up in SimHub. Its settings are kept here only so it is recognised if it comes back — remove it if you are done with it."

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Presets, and the game they belong to

Everything in this guide is set inside a preset, so it is worth knowing which one you are editing before you change anything.

A preset is a complete set of RPM Telemetry settings kept under a name. The row at the very top of the page is where you work with them.

ON THE ROW	WHAT IT IS
CURRENT PRESET	The small grey label. The name underneath it is the preset your lights are running right now
A game badge	The sim this preset is tied to. If it is tied to none, the badge reads **Any game**
A star	This preset is the favourite for its linked game
Change Preset	The pill on the right. It opens the preset panel underneath

What the panel lets you do

BUTTON	WHAT IT DOES
+ New preset	Starts another set of settings alongside the one you have
Import	Brings in a preset somebody sent you as a file
Edit	Opens a **Rename Preset** box, so a preset can be called what it is for
Duplicate	Copies one, so you can change a detail without losing the original
Export	Writes it out as a file to keep or to pass on
Delete	Removes it
Set favourite	Marks it as the favourite for its linked game

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Presets, and the game they belong to (continued)

Those buttons are not on every row. The panel shows the game dropdown, **Set favourite**, **Edit**, **Duplicate**, **Export** and **Delete** on the preset you are currently using, and nothing else on the rest: every other row shows only its star, its game logo and its name. To work on a different preset, click its row to make it the active one and the controls appear there. That dropdown is where the **Any game** badge comes from: leave it unset and the preset is not tied to a sim. There is a search box above the list, which matters once you have more than a few. The favourite button explains itself in the plugin:

"Mark this preset as the favourite for its linked game. The favourite always wins over the default fallback."

> **Presets earn their keep when one rig serves two jobs.** A bright, busy preset for daytime sprints and a dim, quiet one for night endurance is the usual pair. Tie each to a sim and you stop thinking about it.

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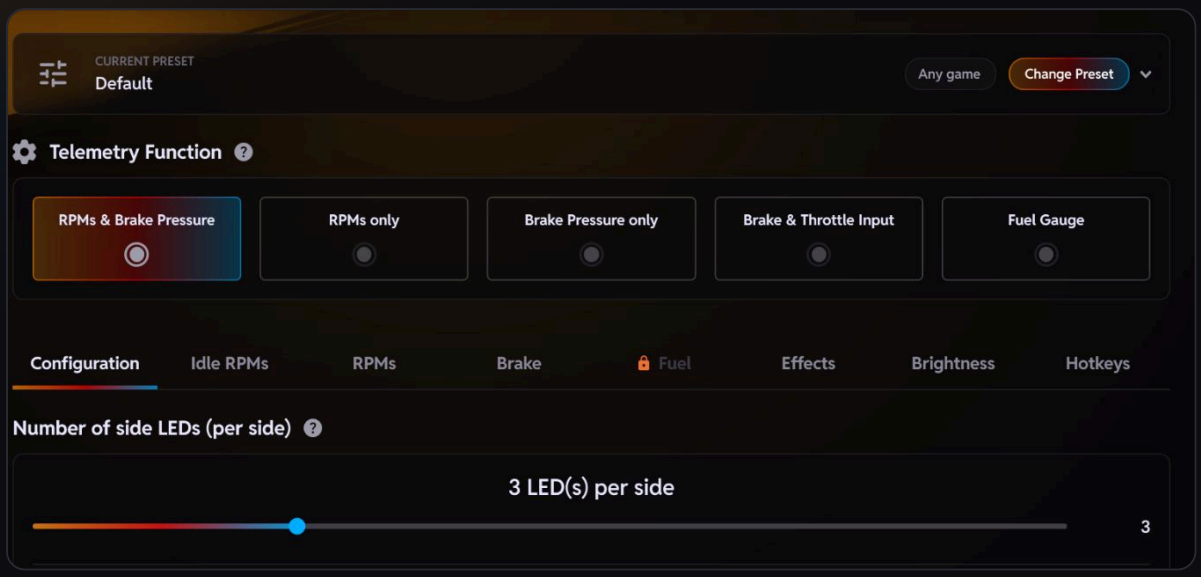
Centre LEDs and side LEDs

A DNR strip is described as **X-N-X**: some LEDs on the left, the rev bar in the centre, some on the right. An X-10-X device has ten rev lights with sides either end.



CONFIGURATION. SET ONCE WHEN YOU INSTALL, AND RARELY TOUCHED AGAIN

Number of centre LEDs

"How many LEDs the rev bar uses in the centre of this device (e.g. 10 for an X-10-X layout). Shift points for the car you are driving are fitted to whatever you pick here, so one RPM profile suits every device."

Number of side LEDs (per side)

"Number of LEDs on one side of your device (e.g. 3 for an X-10-X layout). The side LEDs sit either side of the centre RPM strip. Each device keeps its own number, set for you when you install a profile, so you rarely need to touch this."

> Either side can be zero. A strip that is all rev bar and no sides is a perfectly normal X-N-X device, it just has nothing left over for the spotter to use.

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How the strip is wired

Two settings sit under **How this strip is wired**, and the plugin is blunt about when to use them.

> "Almost no wheel needs anything here. These two answers reorder the whole strip, so change them only if your rev lights come out backwards or in the wrong place."

The rev lights start at light N

The first is a slider, and it names itself as you move it: the line above it reads **The rev lights start at light 1**, then light 2, and so on. There is no control here called *Start position*, which is worth knowing because that name belongs to a different control, the placement sliders beside each effect, covered later in this guide.

Reverse strip

The second is a switch, and it sits at the end of that same row. One note underneath covers both of them, and it is the plugin's own advice on when to touch either:

"Count along your strip to the first rev light. On nearly every wheel that is light 1, so leave it alone. A few wheels carry another set of lights on the same strip before the rev lights — on one of those, count them and start after them. Reverse strip is for a wheel whose rev lights fill from the wrong end: the whole strip is read the other way round, and the side effects swap over with it."

When the count is fixed

"The profile this device is running sets its own LED layout, so the count is fixed. Everything else on this page still applies to this device."

> **Change one thing at a time.** The starting light and Reverse strip both reorder the same strip, so changing both at once makes it impossible to tell which one you needed.

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What the bar shows

Telemetry Function decides what the centre strip is for. It sits above the tabs, on the page itself. Most people leave it on RPMs, but it does not have to be rev lights at all.

Look for it above the tab strip, not inside a tab. **Telemetry Function** is a card on the page itself, sitting between the device picker and the row of tabs, because the answer you give it governs the tabs rather than living in one of them. Its help reads:

"Choose the behaviour of the RPM bar (long segment of LEDs above your DDU/Wheel)"

SETTING	THE CENTRE STRIP BECOMES
RPMs only	Rev lights, the whole strip. The usual choice
RPMs & Brake Pressure	Rev lights, with brake pressure sharing the strip
Brake & Throttle Input	A pedal trace: what you are asking the car for
Brake Pressure only	Brake force alone, across the whole strip
Fuel Gauge	What is left in the tank

> **Brake & Throttle Input** is a coaching tool rather than a racing one. It is very good for learning a new car's trail braking, and distracting in a race.

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What the bar shows (continued)

The tabs, in the order most people use them

TAB	COVERS
Configuration	Which device, how many LEDs, how it is wired
RPMs	Shift lights: where they start, what colour, what redline does
Idle RPMs	What the strip does when you are not driving
Brake, Fuel	The two alternative uses of the strip
Effects	Flags, spotter, pit lane, ERS and the car's systems
Brightness	How bright this device runs
Hotkeys	Changing brightness, presets and RPM style from the wheel

Three of those tabs grey out depending on what you pick here, and that is not a fault. RPMs is live on *RPMs only* and *RPMs & Brake Pressure*. **Brake** is live on *RPMs & Brake Pressure* and *Brake Pressure only*. **Fuel** is live only on *Fuel Gauge*. A greyed tab is the page telling you there is nothing on the strip for it to configure.

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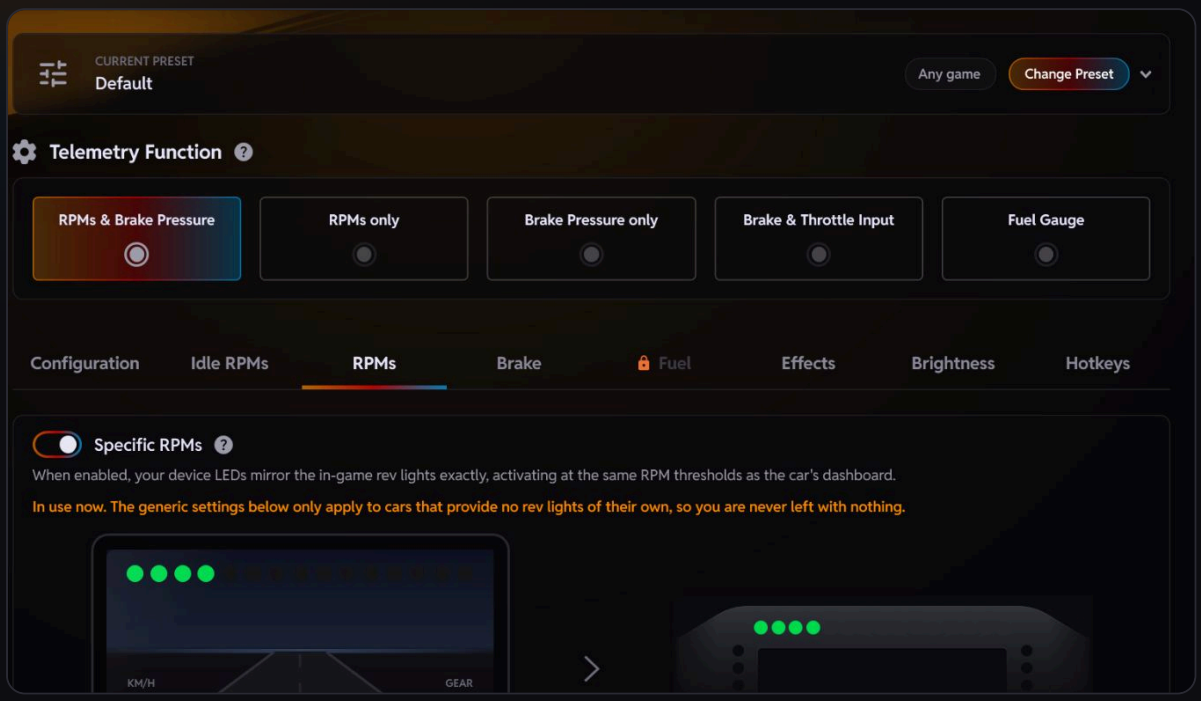
Shift lights: the car's own, or ours

The most important switch on the **RPMs** tab is **Specific RPMs**. It decides whether your strip copies the real car or uses a general purpose scale.



THE RPMS TAB. SPECIFIC RPMS AT THE TOP, GENERIC SETTINGS UNDERNEATH

Specific RPMs

The line under the switch tells you what it does:

"When enabled, your device LEDs mirror the in-game rev lights exactly, activating at the same RPM thresholds as the car's dashboard."

The help icon beside the switch adds what happens when a car cannot supply them:

"Enable this to match device LEDs with in game car-specific RPMs. If unavailable, generic RPMs are used. Disabling defaults to generic RPMs."

Turn it on and your strip behaves like the car you are sitting in, not like a generic rev counter. It needs a **Pit Crew** membership or above.

The page tells you which one is live

Underneath the switch, one line in amber says what is actually running. With it on: *In use now. The generic settings below only apply to cars that provide no rev lights of their own, so you are never left with nothing.* With it off: *Off, so the generic settings below are in use for every car. Turn this on and they become the fallback instead.*

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Shift lights: the car's own, or ours (continued)

The demonstration beside it

The panel to the right is a moving example, not a live feed of your car. A mock dash labelled **IN GAME**, with its own **KM/H** and **GEAR** readouts, sits beside one labelled **YOUR DEVICE**, and the caption underneath is the whole point of the feature:

"Timing, colour, style, speed and length: whatever the car's lights do, your device does with it."

With Specific RPMs switched off the demonstration greys out, which is the page showing you that it is not what your lights are doing.

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Shift lights: style and redline

The **RPMs** tab holds two cards. This page is the first of them, and everything on it is about the general purpose rev bar.

Generic RPMs Settings

The first card. Its subtitle changes with the switch above it: **In use for every car.** when Specific RPMs is off, and *Fallback. Used only for cars that provide no rev lights of their own.* when it is on. Its help reads:

"Choose the style of generic RPMs used when car-specific data isn't available."

There are three, shown as three moving previews side by side rather than as a list, so you pick the one that looks right rather than the one whose name you recognise.

STYLE	LOOKS LIKE
Left to Right	The bar fills from one end to the other. The default, and what most wheels do
Meet in the Middle	The bar fills inward from both ends and closes in the centre
F1 Style	The modern single seater arrangement

> **How many colours the bar uses, and whether they blend, are separate questions. Number of colours** and the **Gradient** switch both live in the **Custom RPMs** card, and that card only appears once the colour theme is set to **Custom**. Neither is one of the three styles here, and they combine with any of them.

Where the bar starts

"Set the starting percentage of the RPM bar. This will customise the point from which your RPM bar will start to illuminate."

A high **RPMs Start Threshold** keeps the strip dark until it matters. A low one gives you the whole rev range. Most drivers end up somewhere around two thirds.

Generic RPMs Redline Behaviour

Two choices, in the same card: **Flashing (Default)** or **Static**. Flashing is easier to catch out of the corner of your eye. Static is calmer on a long stint.

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Shift lights: the settings that reach everything

One card on the RPMs tab is not about this device at all. It is worth its own page, because changing something here changes it on every strip, wheel and box you own.

The second card on the **RPMs** tab is **Global RPMs Settings**, and it says once, at the top, what applies to all of it: **These reach every compatible device, not just this one.** Its help reads:

"Configure Settings that will apply to Specific and Generic RPMs."

Last Gear Redline

"Enable or Disable the Redline flashing when in the last gear."

> Turning **Last Gear Redline** off is worth considering. In top gear there is no shift to make, so the flash is telling you about something you cannot act on.

Redline Behaviour

Two buttons, and they decide where the shift points themselves come from:

SETTING	WHAT IT DOES
DNR Redline Values (Default)	Shift points from our own database, per car
SimHub per Car Settings values	SimHub's own values, which you can edit yourself

"When enabled RPMs use preset Shift Values from a DNR database. When disabled RPM values default to SimHub ‘per car settings’ allowing user customisation."

> **Start on the DNR values.** They are set per car and they are the reason the strip feels right in a car you have never driven. Move to SimHub's only when you disagree with a specific car and want to type your own number in.

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Choosing your own RPM colours

Two cards on the RPMs tab deal with colour: one picks a ready made theme, and the second appears only if you decide to mix your own.

Generic RPMs Colour

"Choose the colour of generic RPMs when using the generic option or when the car-specific and game-matched values are not available."

It sits directly under the three style previews, because it recolours them. The row shows **COLOUR THEME** with the current theme's name, and a **Change Theme** pill on the right. Press that and the full set of themes opens underneath.

THEMES	WHAT IS IN THE LIST
Ready made	**DNR**, **Racing**, **Rainbow**, **Gulf Oil**, **Tokyo**, **Sunset**, **Citrus**, **Artic**
Single colours	Red, Blue, Green, Yellow, Orange, **Purple**, **Pink**, White
Your own	**Custom**

Custom is the first swatch in the row, not the last, and picking it opens a colour box underneath the picker. None of these swatches carries a tooltip; the one on the **Idle RPMs** tab does, and it says what choosing Custom will do there.

If the whole plugin is on one theme

A line in amber sits above the picker reading **Disabled if Universal Theme is enabled**, and the picker greys out when it is. That is Universal Settings holding every device to one colour scheme on purpose. Turn Universal Theme off there if you want this strip to differ from the rest.

Custom RPMs Colour Settings

Choose **Custom** and a second card appears with two halves.

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Choosing your own RPM colours (continued)

HALF	WHAT YOU SET
Custom RPMs	**Number of colours**: 1 Colour, 2 Colours or 3 Colours, and a colour beside each. Then a **Gradient** switch, which blends between them rather than putting them in bands. This is the rev bar filling up
Custom RPMs Redline	The same **Number of colours** choice and its own **Gradient** switch, for what the bar does once you reach the redline

> **This is where the colour count and the gradient live, and nowhere else.** Neither is a style, and neither exists until the theme is **Custom**. If you are hunting for a gradient rev bar, this switch is the one you want.

Each half has a preview beside it, and each preview carries the same caution underneath (the plugin spells it the American way):

"The preview is given as an example. The render on your device may differ depending on the number of LEDs and the color management of the profile used."

That is the only place on the page this caution appears. It is there because a preview is drawn at a fixed width in the plugin, and your strip has whatever number of LEDs it has.

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Picking a colour

The same colour panel is used on the RPMs tab, on Idle RPMs and beside every effect, so it is explained once here.

Anywhere the plugin shows a colour swatch, clicking it opens the same small panel. It is headed **CHOOSE COLOUR**, with a cross in the corner to close it.

PART OF THE PANEL	WHAT IT IS FOR
The square	Drag inside it for how strong and how bright the colour is
The rainbow bar	Drag along it to choose the hue
OPACITY	How lit the LED is, read as a percentage. 100% is fully lit
The hex box	Type a code straight in, if somebody has given you one
DNR COLOURS	Our three house colours: DNR Orange, DNR Red and DNR Blue
PALETTE	Sixteen ordinary colours, from Black and White through to Hot Pink

Opacity is transparency, not brightness. The two brightness settings are the ones that decide how hard your LEDs are driven. This slider decides how present the colour is at all: at 100% the LED is fully lit, and as you come down it becomes see-through rather than simply dimmer. That is why the swatch is drawn over a checkerboard.

On a strip, a colour is only as honest as the LEDs under it. Pale colours and very low opacity both read as white on some hardware, so check anything subtle on the device rather than on the preview.

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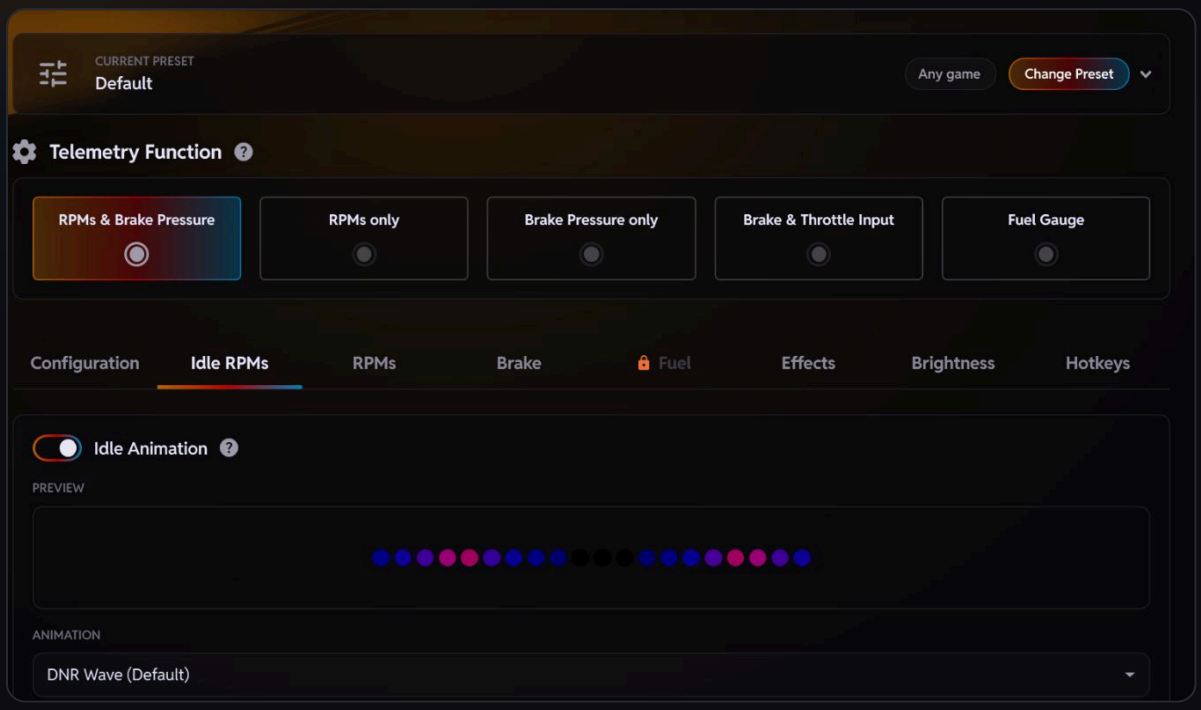
Idle RPMs

What the strip does with SimHub running and no session live: on the desktop, and in the game's menus.



RPM TELEMETRY, IDLE RPMS. WHAT THE STRIP DOES WITH NO SESSION RUNNING

"Enable or disable an animation on your RPM Telemetry bar for when your system is in menu's or idle."

SETTING	WHAT IT DOES
Idle Animation	The master switch, and the movement the strip plays while it waits
Colour Theme	The same theme list as the RPMs tab, behind a **Change Theme** pill
Custom Colours	**Colour 1** and **Colour 2**, shown once the theme is Custom
Idle Animation Total Time	"Set the speed of the Idle Animations."
Run It Backwards	Plays the animation the other way along the strip
Size	"How much of the strip the moving light covers. Small is a single travelling dot, large is a wide band that fills most of the bar."
Brightness	Idle brightness on its own, separate from the race

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Idle RPMs (continued)

The size slider renames itself. It reads **Size** to begin with, but the picker relabels it for the animation you have chosen: **Width Of The Sweep**, **Width Of The Bouncing Light** or **Length Of The Tail**. It is the same setting under all four names, so do not go looking for a missing *Size* control. Some animations have no size at all, and on those the slider is not shown.

Idle Animation Total Time is not just this device. It carries the label *Universal setting applied across all DNR devices*, so the speed you pick here is the speed your brows, boxes and room idle at too. That is what makes a rig look like one thing rather than five when it is sitting still.

Turn idle brightness down. A rig sitting in a dark room at full brightness is the single most common thing people ask us how to stop.

A strip headed **PREVIEW** sits above the animation list and plays whatever you pick, at the speed and in the colours you have set, so you can judge an idle animation without leaving the page. Below it, the list itself is headed **ANIMATION**.

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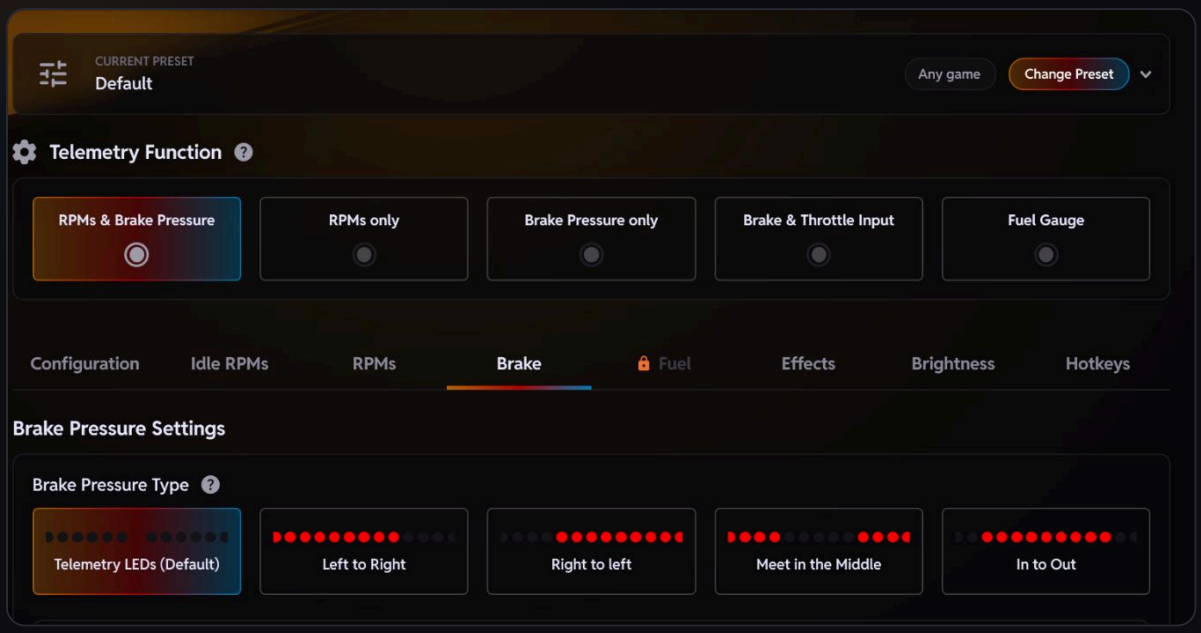
Brake pressure

Brake pressure can run on the centre strip or on the side LEDs, and it can warn you twice on the way to maximum pressure.



RPM TELEMETRY, BRAKE. THE TWO BLINK STAGES, AND WHAT TRIGGERS EACH

The tab is headed **Brake Pressure Settings**. The first choice, **Brake Pressure Type**, is five pictures rather than a list, and each one shows you what it draws.

"Choose where Brake Pressure effect is displayed if enabled."

BRAKE PRESSURE TYPE	WHAT YOU GET
Telemetry LEDs (Default)	Drawn on this device's side LEDs, so the rev bar stays clear
Left to Right	Fills along the main strip, from the left
Right to left	The same, from the right
Meet in the Middle	Fills inward from both ends
In to Out	Grows outward from the centre

Brake LED Position

This appears only on **Telemetry LEDs (Default)**, and only if the device has side LEDs, because the other four types use the main strip and have nothing to place. It is the standard placement control, covered on the next page.

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Brake pressure (continued)

The two blink stages

SETTING	WHAT IT DOES
Blink Percentage Stage 1	"Set the percentage of brake force required to activate the first stage of the Brake Force Blink function"
Blink Percentage Stage 2	The same, for the second stage

The bar underneath them is a scale, not a progress bar. It reads left to right in three zones: quiet, then blinking, then blinking fast.

> **Set stage 1 where you think you are braking hard, and stage 2 where you are near locking.** Then the strip is telling you the last ten per cent of the pedal, which is the part you cannot feel.

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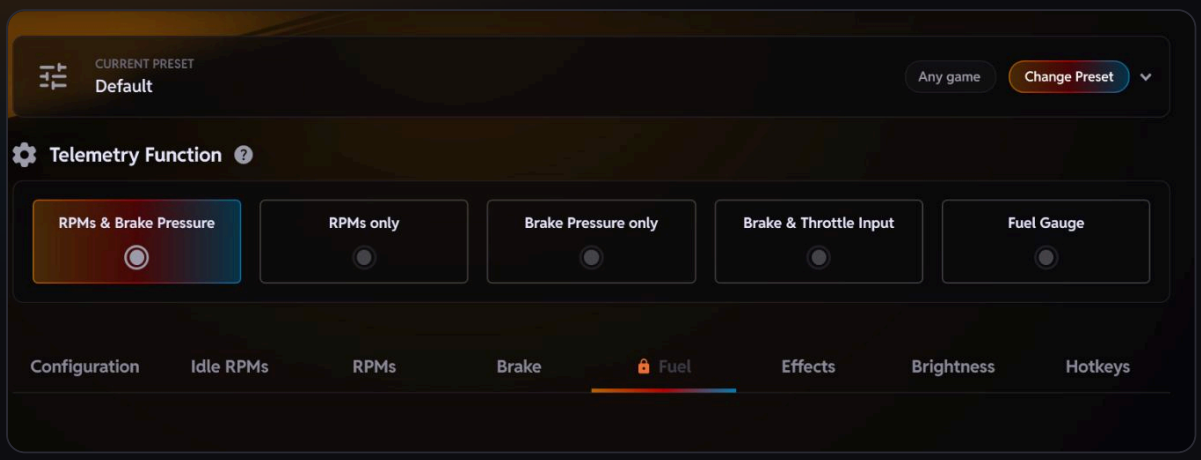
The fuel gauge

One setting, and it is worth knowing which of the two you want before a long stint.



FUEL. ONE SETTING, WITH A PREVIEW OF EACH ANSWER

The **Fuel** tab holds a single choice, **Fuel Gauge Type**.

"Select the type of Fuel Gauge shown when it is activated."

SETTING	WHAT IT DOES
Static colour (Default)	Holds one colour as the level drops. The number of lit LEDs is the reading
Gradient colour	Shifts through a range as the tank empties, so a glance tells you roughly how much is left without counting LEDs

The tab is greyed out unless the bar is set to it. The fuel gauge is one of the five answers to **Telemetry Function**, the card above the tab strip rather than anything inside a tab, and this tab only comes alive on that one answer. If your strip is on **RPMs only**, nothing here will ever show.

Gradient suits a long race, static suits a sprint. Over two hours you want to read the tank without thinking; over twenty minutes you would rather the strip stayed one colour and stopped competing with the rev lights.

The low fuel *warning* is a separate thing and lives on the **Effects** tab, with its threshold and colour in Universal Settings.

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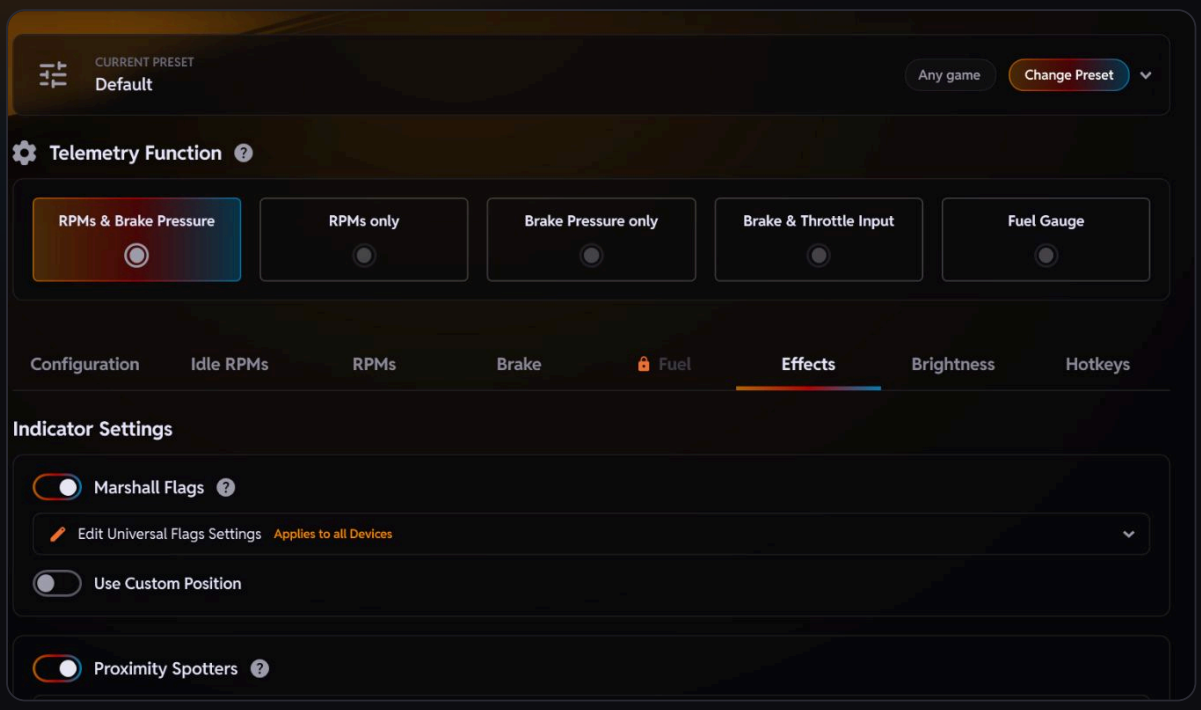
Effects: flags and the spotter

The biggest tab on the page. Each effect has its own switch, so you run only what you want.



EFFECTS. FLAGS, SPOTTER, PIT LANE AND EVERY CAR SYSTEM, EACH WITH ITS OWN SWITCH

The first group on the tab is headed **Indicator Settings**, and it holds the two effects that tell you about other people.

Marshall Flags

"Turn in-game Marshal Flag animations (Yellow, Green, Blue etc) ON/OFF on your DDU/Wheel telemetry lights."

Which flags exist is set once in Universal Settings. This switch decides whether this strip shows them. Two of those universal choices are worth knowing by name, because they are the ones people change: **Show Yellow Sector Flag from whole track (Default)** or **Show Yellow Sector Flag only in current sector**, and, for the pit lane, **Always Visible (Default)** or **Flags Deactivated in the Pit Lane**.

Proximity Spotters

"Turn in-game Spotter animations (warning of cars in close proximity either left or right) ON/OFF on your DDU/Wheel telemetry lights."

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Effects: flags and the spotter (continued)

The spotter uses the **side** LEDs, which is what they are mostly there for. A device with no side LEDs has nowhere to draw it. Its colour lives in Universal Settings, under **Spotter Colour**, whose help reads "Colour Selection for the Spotter LED animation".

> **Flags Priority** settles the argument when both fire at once: flags over spotter, or spotter over flags.

Both switches reveal a placement control underneath when they are on, so each can sit on a different part of the side LEDs.

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Putting an effect where you want it

Use Custom Position, **Start position** and **Number of LEDs** appear beside a dozen different switches, and they mean the same thing every time.

Several effects on the Effects and Brake tabs share one small control. Once you know it, you know all of them.

CONTROL	WHAT IT DOES
Use Custom Position	Off, the effect sits where the profile puts it. On, you place it yourself
Start position	Which LED along the side it begins at, counting from the inside
Number of LEDs	How many it uses from there

A small preview beside the sliders lights the LEDs you have chosen, in that effect's own colour, so you can see the answer without starting a session. Fourteen effects carry one: brake pressure, the flags, the spotter, low fuel, TC, ABS, the headlight flash, lift and coast, the five ERS effects and Push to Pass. That is how a busy strip stays readable.

Turn indicators are the exception

Indicators are the one effect with a left and a right to place separately, so they do not use this control at all. They have their own, with four sliders instead of two: **Left indicator** and **Left indicator LEDs**, then **Right indicator** and **Right indicator LEDs**. The first of each pair is where it starts, the second is how many LEDs it uses, and a **Use Custom Position** switch sits above all four exactly as it does elsewhere.

If a card reads **No side LEDs configured.**, this device has its side count at zero. Set **Number of side LEDs (per side)** on the Configuration tab. There is no centre strip alternative for these effects: they are drawn on the side LEDs or not at all. The one exception is brake pressure, which has a **Brake Pressure Type** setting of its own on the Brake tab that can move it onto the main strip.

Give two effects that can fire together their own LEDs. The spotter and the flags both live on the sides, and stacking them on the same three lights means the one you needed is the one you did not see.

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Effects: the pit lane

Four separate settings, and they are worth understanding individually because between them they stop the most expensive mistake in the race.

The four sit together under **Pit Lane Settings**.

Pit Lane Indicator

"Turn ON/OFF a flashing yellow animation on your DDU/Wheel Telemetry LEDs indicating if you're in the pit lane."

Pit Lane Alerts

"Turn ON/OFF Pit Lane alerts on your DDU/Wheel Telemetry LEDs providing Pit Lane alerts. A flashing red animation signals you're in the pit lane and your speed limiter is NOT active. A flashing green animation indicates you have now passed the Pit Exit line and your speed limiter is active and its time to deactivate it."

Pit Lane Speeding

"Turn ON/OFF a flashing red animation on your DDU/Wheel RPMs lights indicating you're exceeding the pit lane speed limit and your Pit Speed Limiter is turned OFF."

Speed/Pit Limiter

"Enable or disable all Speed/Pit Limiter on your Telemetry LEDs, including speed limiter status, speed limit warnings, activation/deactivation signals, and the pit limiter animation."

> **Leave all four on. Red means you are about to get a penalty, green means you are about to lose time carrying the limiter onto the track.**

Flags Deactivated in the Pit Lane sits in Universal Settings, and most drivers turn it on so a yellow out on track does not light the strip while they are stopped.

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Effects: the car's systems

Seven switches, and three of them depend on what your sim is willing to report.

Under **Car System Settings**, each of these lights the strip when the car does something you would otherwise have to read off a dash.

EFFECT	FIRES WHEN
Anti Lock Braking System (ABS)	"your vehicles Anti-Lock Braking System (ABS) status is active"
Traction Control System (TC)	"your vehicles Traction Control (TC) status is active"
Headlight Flash	"your vehicles headlights are flashed"
Turn Indicators	"your vehicles turning indicators are in use"
Lift and Coast	"Lift and Coast is engaged"
Low Fuel	"an animation indicating low fuel levels, reminding you to pit soon to avoid running out"
Engine Startup Animation	A white "needle sweep" effect "that signals an engine start on your DDU/Wheel RPMs and Telemetry lights"

The last two carry **Applies to all Devices** beside an expander, because their colour and timing are set once in Universal Settings for the whole rig.

Where a sim cannot help

Three of these carry a note in the plugin, and all three are about the sim rather than about your hardware.

SETTING	THE NOTE IT CARRIES
Anti Lock Braking System (ABS)	"Not compatible with iRacing (due to lack of game telemetry)"
Traction Control System (TC)	"(For iRacing, the 3rd-party Dahl SimHub Plugin is required)"
Lift and Coast	"(Only available for Le Mans Ultimate)"

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Effects: the car's systems (continued)

> **An effect that does nothing in one sim and works in another is usually this.** The plugin prints the reason under the switch rather than hiding it, so read the small line before changing anything.

The colour is not set here

Three of these seven carry a swatch with the line **Universal colour setting applied across all DNR devices** underneath it: **Traction Control System (TC)**, **Anti Lock Braking System (ABS)** and **Lift and Coast**. Changing one there changes that effect's colour on every DNR device you own, which is the point: ABS should not be one colour on the wheel and another on the brows.

The same line appears four more times, all of them on the **Effects** tab: **Speed/Pit Limiter** up in the pit lane group, **ERS Deploy** and **ERS Regen** further down, and **Clutch** under **Other Settings**, which is a heading on this tab rather than a tab of its own. Wherever you see it, it means the same thing.

The four car system switches without it are **Headlight Flash**, **Turn Indicators**, **Low Fuel** and **Engine Startup Animation**. The last two say it a different way, with the **Applies to all Devices** badge described above.

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Effects: ERS and energy

Five switches for energy, and a set of colours that decides what each deployment mode looks like.

The group headed **ERS (Energy Recovery System)** collects everything to do with a car's energy store: which mode it is in, how much is left, and whether it is going in or coming out.

SWITCH	WHAT THE PLUGIN SAYS IT DOES
ERS Mode	"Displays the current ERS mode (Attack, Balance etc) in the peripheral LED segment"
ERS Deploy	"Turn on an LED animation showing the Energy Recovery Systems Deploy mode."
ERS State of Charge	"Turn on an LED animation showing the Energy Recovery Systems level of charge."
ERS Regen	"Turn on an LED animation showing the Energy Recovery Systems Regen mode."
KERS / ERS Lap Deploy Limit	"KERS system for F1 cars 2009-2013, will also represent ERS Lap Deploy Limit in modern F1 cars."

Each of those opens a placement control underneath it, so the five can sit on different LEDs rather than fighting for the same ones.

Push to Pass (P2P)

Directly after the ERS group comes a heading of its own, set the same size and weight as **ERS (Energy Recovery System)** above it and **Other Settings** below it. It is a short section: one placement control and nothing else. It decides where the Push to Pass effect sits on the side LEDs, and it has no switch of its own on this tab.

The seven mode colours

Edit Universal ERS Mode Settings, on the ERS Mode switch, opens the colours the modes are drawn in. All seven are Universal, so they are set once for the whole rig.

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Effects: ERS and energy (continued)

COLOUR	THE MODE IT STANDS FOR
ERS No Deploy Colour	"Colour Selection for the ERS No Deploy animation."
ERS Low Colour	"Colour Selection for the ERS Low animation."
ERS Medium/Balanced Colour	"Colour Selection for the ERS Medium/Balanced animation."
ERS High/Hotlap/Attack Colour	"Colour Selection for the ERS High/Hotlap/Attack animation."
ERS Max/Overtake/Qualify Colour	"Colour Selection for the ERS Max/Overtake/Qualify animation."
ERS Charging/Build Colour	"Colour Selection for the ERS Charging/Build animation."
ERS Wet/Rain Colour	"Colour Selection for the ERS Wet/Rain animation."

Make the ladder read as a ladder. Cool colours for the low modes climbing to a hot one for the highest is easier to read at a glance than seven unrelated colours, because you are reading the position on the scale and not the name of the mode.

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Effects: everything else

Three effects that did not belong to any of the other groups, and the setting that decides what happens when you are not the one driving.

The last group on the tab is headed **Other Settings**.

SETTING	WHAT THE PLUGIN SAYS IT DOES
SC Delta	"Turn ON/OFF an animation for the EA F1 series of games during Safety Car periods, showing you whether your delta is positive or negative."
Clutch	"Turn ON/OFF a clutch animation in the RPM bar which displays the current value of the clutch (for example, for use in standing starts)."
DRS Detection Point	"Displays a preliminary yellow LED animation at Detection Point, signalling DRS will become available imminently."

Spectator Mode

The last card on the tab, and it decides what your lights do while you are watching rather than driving.

SETTING	WHAT IT DOES
Show telemetry LEDs while spectating (Default)	Your strip follows whoever you are watching
No telemetry LEDs shown while spectating	The strip stays out of it until you are back in a car

This one is kept with the Universal settings rather than with this device. It sits on the Effects tab for convenience, but it is one answer for the rig, not one per strip.

The clutch animation is for standing starts. On a rolling start grid it is movement you do not need, so it is a fair one to leave off if your series never stands still.

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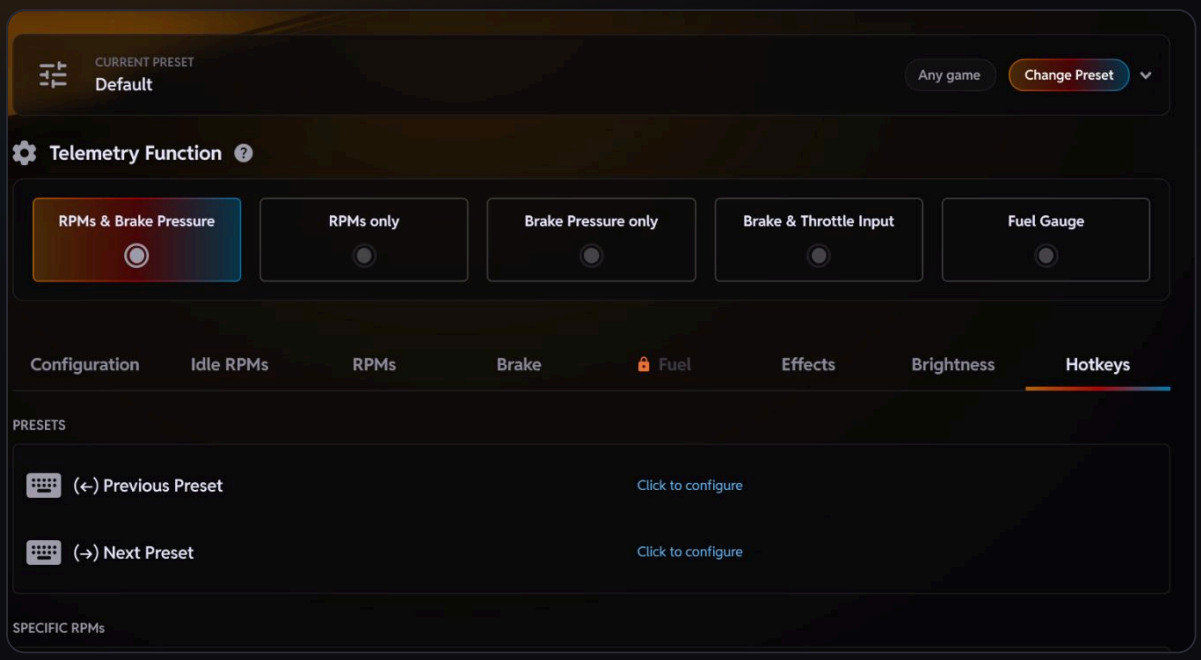
Hotkeys

Five things you can change without taking your hands off the wheel.



HOTKEYS. FIVE GROUPS, EACH WAITING FOR YOU TO PRESS A BUTTON

Every row has a box on the right. Click it, then press the control you want to use, and that input now does the job. The boxes are SimHub's own, and each one is tied to a named DNR action.

GROUP	WHAT IT BINDS
PRESETS	**Previous Preset** and **Next Preset**: step through the presets tied to the sim you are in, plus any tied to no sim at all
SPECIFIC RPMs	**Toggle Specific RPMs**: switch between the car's own rev lights and the generic bar
RPM STYLE	**Previous Style** and **Next Style**: step through Left to Right, Meet in the Middle and F1 Style
RPM COLOUR	**Previous Colour** and **Next Colour**: step through the theme list
BRIGHTNESS	**Decrease Brightness** and **Increase Brightness**: this device's brightness, in steps

Brightness is the pair worth binding first. A rig set up in daylight is too bright at night, and reaching for the keyboard mid stint is how you lose a lap.

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Hotkeys (continued)

The style and colour hotkeys move the *generic* RPM settings, so they are most useful if you drive with Specific RPMs off, or in cars that provide no rev lights of their own.

The preset hotkeys do not walk every preset you own. They cycle the ones linked to the sim currently running, together with any left on **Any game**, and they skip the rest. That is usually what you want, and it is worth knowing if a preset you expected never comes round: check the game it is tied to in the preset panel.

The **Brightness** tab beside it sets the same value with a slider, for when you are not in the car.

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Universal Settings, and who wins

Read this page twice. It explains most of the "why is nothing happening" questions we get.

"The universal DNR lighting profile: one set of colours, effects and flag behaviour applied across everything you own, so your wheel, button boxes and brows all react to the session together."

The rule

SET WHERE	DECIDES
Universal Settings	**Which** flags exist, every status and ERS colour, spotter distance and timing, global brightness
This device's Effects tab	**Whether** this device shows them at all

Both have to be on. Switching a flag off in Universal switches it off on every device you own, which is the point: it keeps a rig behaving as one thing rather than five.

> **Check Universal first, the device second.** Nine times in ten it is Universal.

Getting there quickly

You do not have to leave this page. **Edit Universal Flags Settings**, **Edit Universal Spotter Settings**, **Edit Universal ERS Mode Settings**, **Edit Universal Low Fuel Settings**, **Edit Universal Engine Start Settings** sit beside the matching switches.

> Wherever you read **Applies to all Devices** or "Universal setting applied across all DNR devices", changing it there changes it everywhere.

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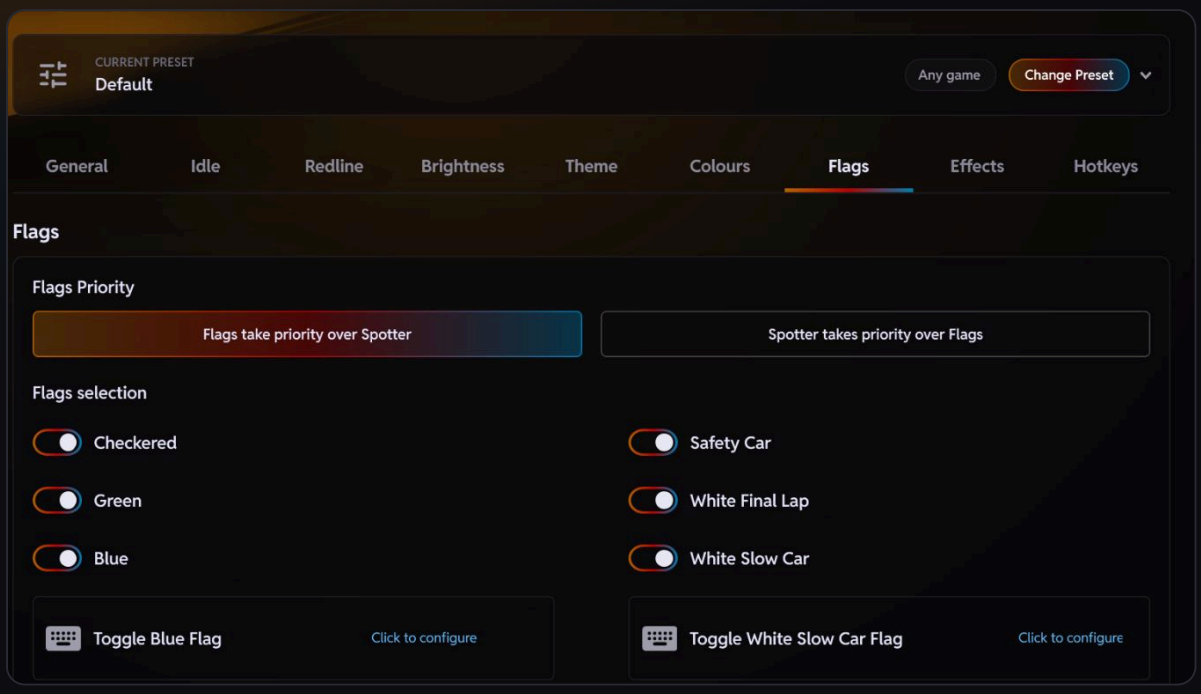
What the flag settings actually are

Every flag setting lives in Universal Settings, so it is set once and every device obeys it.



UNIVERSAL SETTINGS, FLAGS. WHICH FLAGS EXIST, AND HOW THEY BEHAVE

Edit Universal Flags Settings opens these without leaving the page you are on. Everything here applies to *every* DNR device at once.

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What the flag settings actually are (continued)

SETTING	WHAT IT DOES
Flags selection	Which flags exist at all, each with its own switch: **Toggle Blue Flag**, **Toggle White Slow Car Flag**, **White Final Lap**, **Safety Car**, **Black**, **Orange (Meatball)**, **Debris** and **Checkered**
Flags Blink Frequency	"Set the flashing speed of the Flag Animations"
Flags Priority	Whether **Flags take priority over Spotter** or **Spotter takes priority over Flags** when both fire at once
Flags Visible Yellow Sector	"Show Yellow Sector Flag from whole track" (the default) or "only in current sector"
Flags in Pit Lane	**Always Visible**, the default, or **Flags Deactivated in the Pit Lane**
Checkered Flag Duration	The maximum seconds the chequered flag is shown, across every device
White Flag Final Lap Duration	The same for the final lap white flag
Clear Pit Flags (iRacing)	iRacing only

Yellow sector scope is the one worth thinking about. Whole track means you see a yellow anywhere on the circuit, which is safest and busiest. Current sector only means the room goes yellow when it matters to you, and stays quiet when the incident is a mile behind. Neither is wrong; they suit different racing.

Priority exists because both can be true at once. A yellow flag while a car is alongside you is a real situation, and one light cannot show both. Decide which one you would rather be told about with a glance.

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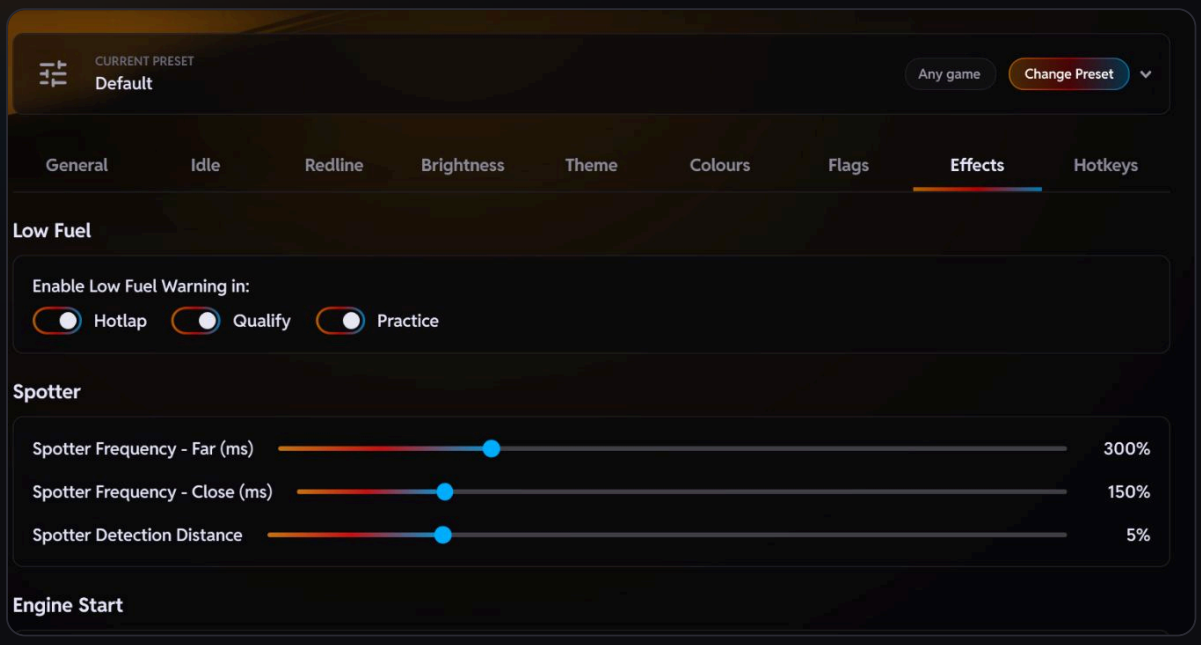
Spotter, low fuel and engine start

Two of the three remaining expanders on a device's Effects tab. Like the flags, all of it is set once and obeyed everywhere.



UNIVERSAL SETTINGS, EFFECTS. THE SPOTTER, LOW FUEL AND ENGINE START, SET ONCE

Spotter

SETTING	WHAT IT DOES
Spotter Detection Distance	How close a car has to be before the spotter fires at all
Spotter Distance Far	Where the far band ends, so the flash can slow down as a car drops back
Spotter Frequency — Close (ms)	How fast it flashes when the car is right there
Spotter Frequency — Far (ms)	How fast it flashes at the edge of the detection distance
Spotter Colour	The colour of the spotter animation

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Spotter, low fuel and engine start (continued)

Low fuel

SETTING	WHAT IT DOES
Enable Low Fuel Warning in:	Three switches, one per session type: **Low Fuel Practice**, **Low Fuel Qualify**, **Low Fuel Hotlap**
Low Fuel Acknowledge	A hotkey. "Set a hotkey to disable the warning during the lap. This allows you to acknowlege the warning has been seen, but then disable it so it does not cause a distraction."
Low Fuel Colour	The warning colour

> **Turning low fuel off in qualifying is the usual choice.** A qualifying run on fumes is deliberate, and a warning you meant to trigger is just noise. The plugin splits it by session type so you do not have to choose between all and nothing.

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Engine start

The last of the four expanders, and the only effect on a DNR rig that is meant to happen on every device at the same instant.

SETTING	WHAT IT DOES
Engine Startup Animation	Whether the sweep plays at all, per device
Engine Start Colour	The shared colour for the start sweep on every device
Engine Start Animation Duration (ms)	How long the sweep takes
Ignition and Engine Start Combined	Whether ignition and start are one animation or two

Engine start is the one effect worth leaving on even if you turn everything else off. It is a single sweep at a moment nothing else is happening, and it is how you know the rig is actually connected to the car.

It is shared on purpose. One colour and one duration means your wheel, strip, brows, flag box and room all fire together as the engine catches, rather than five things doing five different animations at once.

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If something is not right

WHAT YOU SEE	WHAT TO DO
Rev lights fill from the wrong end	**Reverse strip** on the Configuration tab. Change only that, then look again
Rev lights start partway along	The slider reading **The rev lights start at light N** on the Configuration tab. Count to the first rev light and set that number
Too few or too many rev lights	**Number of centre LEDs**. Shift points are fitted to whatever you set
Spotter does nothing	Side LED count is probably zero. The spotter uses the side LEDs
The bar never lights until very late	**RPMs Start Threshold** is set high. Lower it
Shift points feel wrong for one car	Turn on **Specific RPMs**, or switch to **SimHub per Car Settings values** and edit them
Flags do nothing	Two switches: the flag in Universal Settings, then **Marshall Flags** here
An effect is missing in one sim only	That sim does not report it. The page marks the ones this applies to
The colour picker is greyed out	**Disabled if Universal Theme is enabled**. Turn Universal Theme off, or set the colour there
The Brake tab is greyed out	Telemetry Function is not on a brake setting. Change it in the card above the tabs, not on a tab
The Fuel tab changes nothing	Same reason, same card. The bar has to be set to **Fuel Gauge**
The whole page is dimmed and will not take a change	You are signed out. Press **Go to Home** in the banner at the top and sign in. Your settings are kept and come straight back

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If something is not right (continued)

Specific RPMs is greyed out, with a Become a Member card above it	That one section needs Pit Crew or above, and the plugin activated on the home page. The rest of the page works on any tier
Too bright in a dark room	Idle brightness on the Idle RPMs tab, separately from race brightness
Settings look wrong after adding a device	Check the device picker at the top. You may be editing the other one
Everything changed at once	Check **CURRENT PRESET**. A linked preset can have swapped with the sim

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Questions and support

If the previous page did not cover it, we would rather hear from you than have you live with it.

Where to go

FOR	GO TO
Setup guides	danielnewmanracing.com/support/instructions
Common questions	danielnewmanracing.com/support/faq
Video walkthroughs	danielnewmanracing.com/support/tutorials
Which devices we support	danielnewmanracing.com/compatible-devices
The community	discord.gg/danielnewmanracing
Our team	support@danielnewmanracing.com

Before you write in

Open **Diagnostics** from the plugin's home page and run a health check. It collects which SimHub you are on, which plugin version, which devices are connected and what the plugin has been doing, into one file. Attaching it turns most tickets into one reply rather than five.

> For anything about the strip itself, tell us the device, its layout (the X-N-X numbers), the sim, and what you expected. That is usually enough to answer in one reply.

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