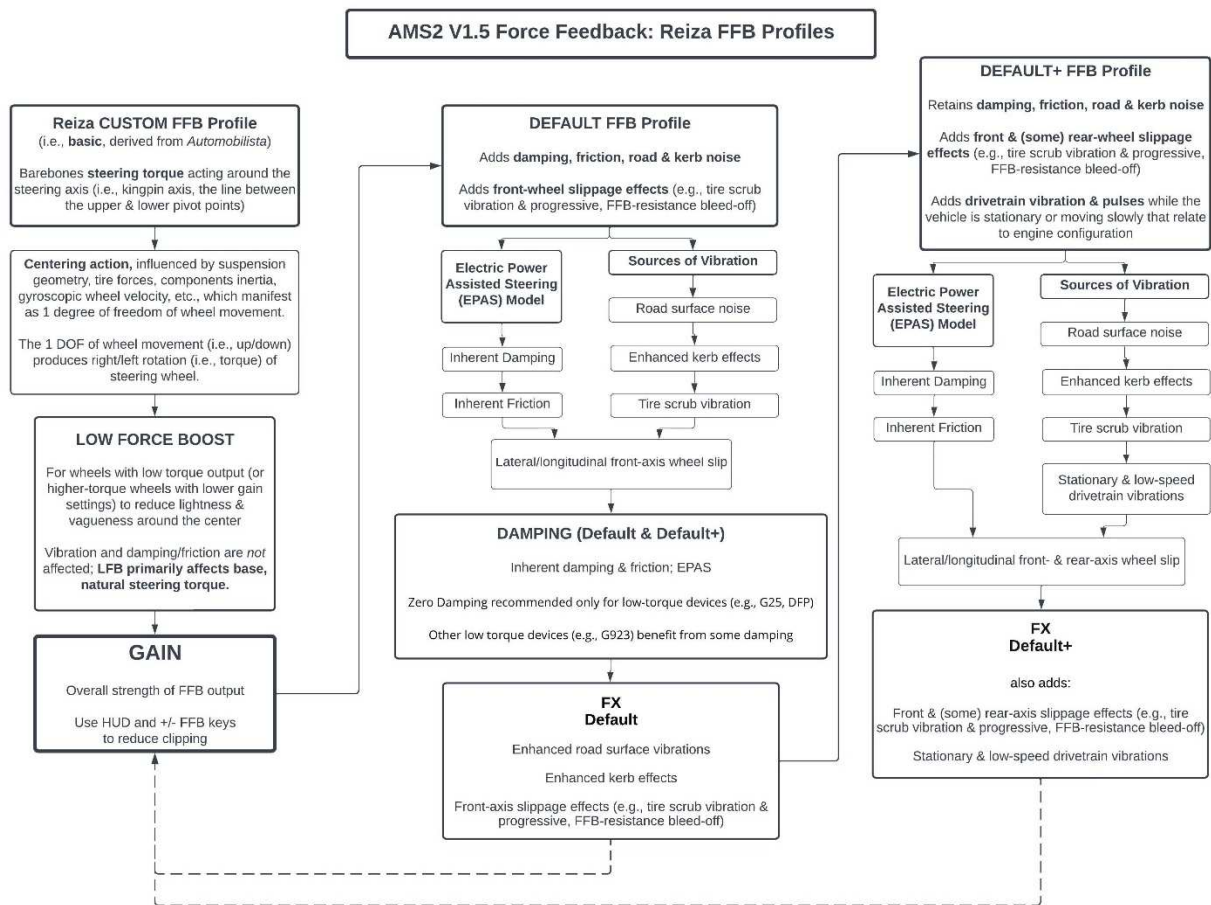


The *Automobilista 2* V1.5.3 FFB Guide by John B. Ellis

The purpose of this guide is to provide a clear methodology for determining optimal force feedback settings, for any wheel base, using Reiza's set of inter-related, force feedback profiles in AMS2 V1.5. The diagram entitled "AMS2 V1.5 FFB: Reiza FFB Profiles" visually encapsulates what was provided in Reiza's official thread about V1.4 FFB Recommendations by [@Domagoj Lovric](#), along with information derived from more recent V1.5 and V1.5.3 updates. The flowchart demonstrates how Reiza's three distinct, in-game FFB profiles may be deployed in a hierarchical, progressive manner to help understand, obtain, and fine tune, individual FFB settings.



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The Methodology

1) **Select the Reiza Custom (Basic) profile** in order to activate the "barebones steering torque" model derived from the *Automobilista's* PURE FFB profile. The following table displays how the FFB profiles created for AMS2 were influenced by those developed for *Automobilista*.

Automobilista FFB Profile	FFB Effects	AMS2 FFB Profile	FFB Effects
PURE	Realfeel forces only; MaxForceAtSteeringRack	→ Custom (basic)	steering torque around kingpin axis; rack_force
			↓
PURE + EFFECTS 1	+ damping, friction, kerbs, jolts & impacts	→ Default	+ damping, friction, enhanced road surface vibration & kerb effects; front-wheel slippage effects (e.g., tire scrub vibration & progressive, FFB-resistance bleed-off)
PURE + EFFECTS 2	+ brake pedal and steering vibration		
			↓
PURE + EFFECTS 3	+ engine RPM & car speed vibration	→ Default+	+ front- & rear-wheel slippage effects; stationary & low-speed drivetrain vibrations

In his [initial post](#) about V1.4, Domagoj includes recommended software settings for several wheel bases (summarized in the "Recommended FFB Wheel Base Settings" table). Notably, that table also lists the *exact* Fanatec DD2 Podium settings used by [@Coanda](#) to standardize FFB output across *all* vehicles in AMS2 V1.5.

AMS2 V1.4 Recommended FFB Wheel Base Settings (with available V1.5 updates)													
	8 - 30 Nm				5 - 8 Nm				2 - 5 Nm				
	Fanatec * Podium DD2	Fanatec Podium DD1	Fanatec CSL DD w/bkit	Simucube 2 Sport DD	Thrustmaster TG-T	Logitech G29	Logitech G923	Logitech G27	Logitech G25				
Gain	35	30-40	60	Gain 40	Gain 75	Gain 80	80	Gain 100	100				
LFB	2	0-10	7	LFB 2	LFB 10	LFB 50	50	LFB 60	60				
FX	25	10-50	50	FX 50	FX 50	FX 20	20	FX 50	50				
Damping	60	50-70	50	Damping 50	Damping 40	Damping 10	10	Damping 0	0				
SEN	Auto	Auto	Auto	Overall Strength 40-60	Overall Strngth 75	Oper Range 900	900	Rotation 900	900				
FFB	100	50	100	Steer Range 900	Constant 100	Sensvtvy 50	50	Ov. Strgth 100	100				
FFS	Peak	Peak	Linear	Bumpstop feel Soft	Periodic 100	Centering 20	20	Spring 0	0				
NDP	10	10	22	Bumpstop range 900	Spring 100	Trueforce unchecked	unchecked	Damper 0	0				
NFR	3	3	14	Recon. filter 1	Damper 100	apply settings checked	checked	Center 10	10				
NIN	3	5	10	Torque band 2200 Hz	BOOST OFF			Game adjust checked	checked				
INT	5	3-4	2-4	Damping 8-10	center/by wheel 0								
FEI	100	100-80	80	Friction 2-8									
FOR	100	100	100	Inertia 0-10									
SPR	OFF	100	100	Static force red. 0-15									
DPR	OFF	100	100	Slew rate limit 0.21									
SHO	OFF	OFF		UL Latency mode Off									
BLI	OFF	OFF		peak notch filter Disabled									
				DIE damping 0									
				DIE friction 0									
				Spring 0									

* Note: These Fanatec Podium DD2 settings were used by @Coanda to standardize FFB forces for *all* vehicles in AMS2 V1.5.
 ** Suggested FFB settings for AMS2 V1.5 prior to actual tuning.

Any vehicle in AMS2 ought to be drivable, and even raceable at the limit, lap after lap, using nothing more than the Basic FFB profile tuned with a sensible Gain setting and (if required) LFB value. A driver might *appreciate* the additional effects simulated by the Default & Default+ profiles (especially those users with higher-end gear, sim-rigs, etc.) but the sim's kingpin-axis suspension model, tire noises, and visual cues are sufficient and necessary for driving--and Reiza's Basic model serves as the foundation for *everything* that follows. Consequently, simracers who initially ignore the Basic profile may find it more difficult to determine their best Default or Default+ FFB settings. Note that both FX and Damping sliders are explicitly designed to have no intended effect when the Basic FFB profile is selected; regardless, *both FX and Damping should be set to 0 when initially exploring and developing a feel for the Basic model.*

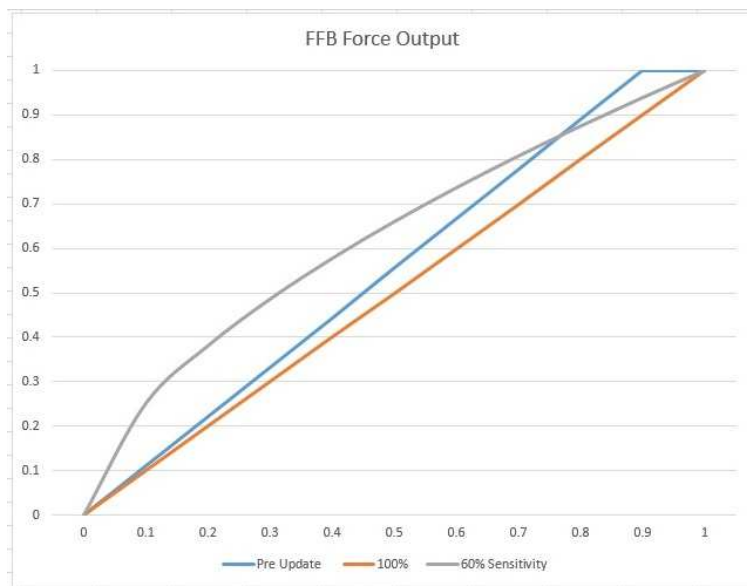
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2) Using the **Basic FFB profile**, find the best **Gain** and (if necessary) **LFB** settings for your wheel. At this point, FX and Damping should be set to 0. Although the Wheel Base table lists recommended Gain and LFB settings for various hardware, a synthesis of the data yields a simple array of initial FFB settings:

Initial FFB Settings by Wheel Strength			
	2 - 5 Nm	5 - 8 Nm	8 - 30 Nm
Gain	80 - 100	60 - 80	30 - 60
LFB	50 - 60	10 - 40	0 - 10
FX	0 - 50	0 - 50	0 - 50
Damping	0 - 10	30 - 40	50 - 70

Setting Low Force Boost (LFB)

In most cases, LFB should be viewed as a "set it and forget it" item; that is, certain wheel bases may benefit greatly from it, while others hardly require LFB, if at all. At one end of the spectrum, the Logitech G25 is the weakest wheel base officially tuned for AMS2 (LFB 60). At the other end, [@Coanda](#) set LFB to only 2 when using a Fanatec Podium DD2 to tune FFB for all V1.5 cars. In order to better visualize exactly what LFB is intended to accomplish, here is the original LFB graph as provided for *Automobilista*:

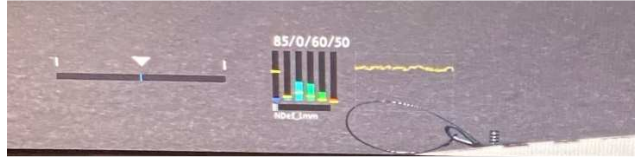


Essentially, with LFB set to 60, the weakest 20% - 30% of forces generated by the sim are compressed within the initial 10% - 12% of wheel base force output (i.e., to help "the forces come in earlier"), which allows a lower-strength wheel base to operate within a higher effective range of its output. In most cases, users should simply utilize Reiza's recommended LFB values, subsequently modifying overall Gain strength as needed. If, after substantial testing, recommended LFB values feel overly intrusive or unconvincing, then lower LFB values (including LFB 0) can be trialed before settling on a final value to be held constant thereafter.

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Setting Gain

Unlike most "one-and-done" FFB settings in AMS2, Gain is designed to be adjusted, as needed, to optimize FFB dynamic range and minimize clipping in order to maintain the optimal FFB experience. The HUD displays dynamic FFB clipping values in red, and per-vehicle Gain adjustments can be made, either up or down, while driving in the sim.



These FFB Gain Increase and FFB Gain Decrease buttons can be assigned under the "Vehicle" subsection (scroll down to it) when configuring a controller in AMS2 to permit real-time FFB adjustments:



After LFB is set, test out a selection of different cars and tracks to help adjust Gain values to produce a natural centering force and tire feel without undue clipping. Keep in mind that changes to suspension settings within the Advanced Setup menu may increase (or decrease) a vehicle's centering force, perhaps necessitating small changes in Gain values. After testing, select a global FFB Gain setting that best suits *most* vehicles in the sim; after that, tweak individual, in-car Gain adjustments as needed. AMS2 will save individual vehicle Gain differences, and the Force Feedback subsection provides the option to erase all of these values if desired.

3) **Leave FX and Damping both at 0 and switch over to the Default FFB profile.** The Default profile takes the Basic profile's steering rack forces and adds an Electronic Power-Assisted Steering (EPAS) model that activates the following features: 1) inherent friction and damping, calibrated for each individual car, 2) enhanced road/kerb vibrations, and 3) *front-wheel* slip/tire scrub effects. Similar to how a sports car with EPAS may tighten its steering feel when placed in Sport mode, the default profiles in AMS2 modify friction and damping on a per-car basis within the sim. With AMS2 V1.4, there were little, if any, appreciable differences between the Basic and default profiles when FX and Damping were set to 0. In AMS2 V1.5, however, there are *obvious* differences—even with FX and Damping zeroed--when switching between the Basic, steering-rack profile and the default profiles, which include EPAS modeling.

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Therefore, keeping FX and Damping at 0 provides a suitable baseline for initial comparisons between all Reiza FFB profiles, prior to further fine tuning.

Setting Damping

Feel free to consult the suggested Damping values in the Initial Settings table; in short, weaker wheels require 0 to 10 Damping, whereas more powerful wheels benefit from 50 (+/- 10) Damping. The Damping slider primarily accounts for inherent damping and friction within the system, so determine a suitable Damping value first, and hold it relatively constant, before working to fine tune the FX setting. In general, all but the weakest wheel bases (e.g., G25/G27) will benefit from some amount of Damping. Once the Default profile is set with the correct LFB and Damping values for a specific wheel base, the user should develop a baseline feel for these settings while keeping FX at 0.

Setting FX

With Damping properly set, tune FX to your preferred level of enhanced road/kerb vibration & front-wheel slip/tire scrub effects, (e.g., progressive bleed-off in front-wheel FFB resistance as tires lose grip). As a result of the more recent physics updates and improved tire model, FX values in AMS2 V1.5 may need to be notably lower than those previously recommended for V1.4. Some users may decide to maintain FX at 0 if baseline EPAS modeling improves overall steering feel, devoid of additional vibration effects, as setting FX to 0 allows the sim to automatically adjust inherent friction and damping for each vehicle, without further amplifying kerb and vibrational forces. As noted earlier, even the weakest wheels that require Damping set to 0 (e.g., G25/G27) can still benefit from a baseline level of EPAS engagement when FX is 0. Also, as Damping and FX values can conceivably interact with each other to some degree, the best combination of values may require a small bit of final tweaking, but once found, both Damping and FX should be held constant. The Default profile may produce increased FFB levels compared to the Basic profile—although this has been greatly reduced in AMS2 V1.5.3—so attenuate Gain as needed (either globally or on a per-car basis) to restore the desired FFB level.

4) Finally, switch to Default+ FFB profile. Default+ takes the Default FFB profile and additionally generates stationary/low-speed drivetrain vibrations and *front- & rear-wheel* slip/tire scrub effects. When switching from the Default to Default+ profile, it should be possible to leave LFB, Damping, and FX values unchanged, modifying overall Gain as needed to maintain optimal FFB output. With some hardware, however, FX may require a bit of final tweaking when moving up to the Default+ profile.

Once set, make note of the optimal LFB, Damping, FX, and Gain levels for each profile. Ideally, LFB, Damping, and FX settings for the Default & Default+ profiles should be identical, with only minimal differences in Gain, if any. With a common reference point now set, feel free to make final comparisons between Reiza's Basic, Default, and Default+ profiles based on your own hardware, testing results, and preferences.

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Conclusion

The methodology described here will yield a clear understanding of what each Reiza FFB profile and/or FFB slider actually does in isolation and how they all, in fact, interrelate with one another. Despite all the evidence to the contrary in this article, Reiza's FFB profiles are actually designed to be relatively simple to set up, and the entire process can be reduced to the following:

- 1) **Set LFB and Damping to Reiza's recommended levels, based on wheel base strength.**
- 2) **Set FX to achieve desired level of vibration effects and additional EPAS-model enhancement.** Once determined, hold LFB, Damping, and FX constant.
- 3) **To optimize FFB dynamic range and minimize clipping, adjust Gain globally, and on a per-vehicle basis, as needed.**

As an example, here is how this tuning process would unfold with a Logitech G25:

1) Consult the Wheel Base table. If specific LFB and/or Damping values are not listed for a wheel, refer to its smaller "Suggested FFB Settings by Wheel Strength" table for a suitable starting range of values. For the G25, set LFB to 60 and Damping to 0.

2a) FX is initially set at 0 while testing the Basic profile.

3a) After driving a selection of cars with the Basic profile, the recommended Gain value of 100 is reduced globally to 75 (e.g., F-USA 2023 at Indy Oval, F1 cars, etc.). Note: Gain needs to be increased for low-downforce cars.

2b) The Default profile is engaged. FX is still at 0.

3b) After driving a selection of cars with the Default profile, baseline EPAS model contributions (FX 0) are judged as positive (e.g., improved steering response due to EPAS modeling of inherent friction, etc.). Gain remains at 75. Note: Gain remains much better optimized due to EPAS model activation; only very small Gain tweaks, if any, are needed when switching vehicles.

2c) Higher FX values with Default profile are trialed, to no positive effect. The additional vibrations are perceived as an annoyance on the G25, and impair overall steering feel. FX is returned to 0.

3c) The Default+ profile is engaged (FX 0). Previous poor results trialing higher FX values (step 2c) makes further FX testing unnecessary. After testing an additional selection of cars, Gain remains at 75.

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Final settings:

Basic profile: Gain 75, LFB 60, FX 0, Damping 0 (Note: +/- Gain adjustments needed to optimize)

Default profile: Gain 75, LFB 60, FX 0, Damping 0

Default+ profile: Gain 75, LFB 60, FX 0, Damping 0

Although all three Reiza FFB profiles were systematically optimized using this method, further comparisons may be required to settle which FFB profile is the preferred choice. In the case provided above, the user will simply need to decide whether the Default's front-wheel EPAS model or Default+ front- & (some) rear-wheel EPAS model is preferred. Because all other variables have been systematically tested and calibrated, the final, subjective choice is buttressed and supported by a rational, objective methodology. Moreover, the consistency of this tuning approach will help a simracer better discern sim-related issues worthy of report to developers (e.g, "I am confident in my FFB tune, but the Formula Reiza still feels way off compared to other cars in AMS2.") rather than unintentionally misinterpreting noise and variability stemming from suboptimal FFB settings. Simracers who utilize this methodology, but who ultimately fail to connect with any of the original FFB profiles in AMS2--or who are genuinely interested in exploring additional layers of FFB complexity--may be better served utilizing a third-party, custom FFB profile (conveniently available [here](#)) rather than over-complicating Reiza's straightforward approach to FFB.

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Appendix: Centering Force for Logitech G25 & G27 Users

According to the V1.4 guidelines provided by Reiza, Logitech G29 & G923 users should set the centering force in G HUB to 20. By the same reasoning, though not explicitly stated in the post, G25 & G27 users should consider setting their Wingman Profiler centering force to 10%, as recommended in the original *Automobilista User Guide*, p. 34:

Rotation

900 degrees. The game will automatically adjust the allowed range based on the car.

Force Feedback

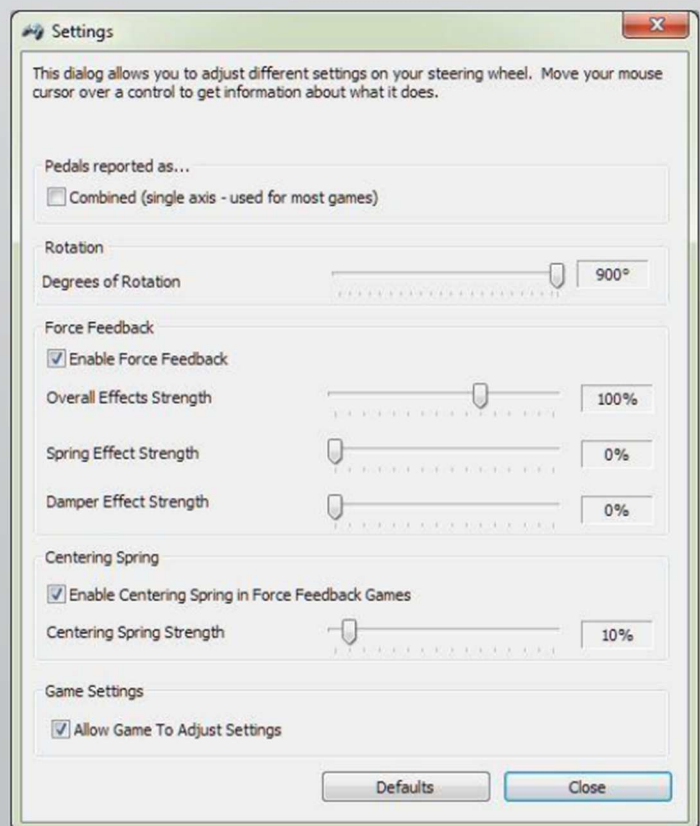
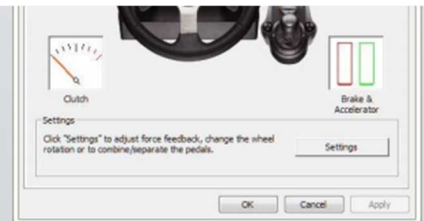
We recommend just running with overall effects strength at 100% and the others reduced to 0%. We want you to feel exactly what is coming from the car.

Centering Spring

We recommend adding a small amount of centering spring as it reduces clipping and doesn't really interfere with FFB

Game Settings

It is very important that you allow the game to adjust settings automatically so we can set the rotation correctly!



Of note, Reiza's G25 profile from *Automobilista* sets Force Feedback Strength at 100 and FFB Low Force Boost at 60, which are *identical* to the Gain and LFB values now recommended for AMS2. Gain may need to be attenuated when driving high-downforce vehicles using the HUD's FFB display and Vehicle FFB Gain +/- keys. Regarding wheel base profile software, keep in mind that Steam typically selects the AMS2AVX executable in most cases, regardless of VR status (if so, the AMS2 version number on the main menu will end in .AVX).