



Technical Report R+2302

How to Improve Your Track Performance: A Comparison of the Best Lap-Timers for karting and motorcycle racing

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Revision 01: 230926

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1 Summary

The Mychron5S is well-known and reliable, loved by motorsport fans for its sleek design and extra features for advanced telemetry.

The Alfano6, though less famous globally, is big in Europe thanks to its wide range of race tracks and user-friendly data analysis software.

The Starlane Corsaro 2 (in R and Pro versions) is compact, powerful, and stands out for its wireless technology and touchscreen.

We'll dig into their main features and prices to help you pick the right one for your needs.

2 Introduction

In modern motorsport, Lap Timers are crucial for improving track performance, whether you're on a kart, motorcycle, or scooter.

If you're into racing or want to boost your vehicle's performance, you're in the right place.

Today, we're checking out the top Lap Timers: the Mychron 5S, Starlane Corsaro (R and Pro), and Alfano6.

We'll explore what they offer to help you choose the best fit for your track adventures.

3 Contenders

Lap Timers have changed the game for karting and motorcycling, giving valuable insights to boost performance.

Here are the main players in amateur racing: the MyChron 5, Alfano6, and Starlane Corsaro (available in R and Pro versions).



[MyChron5S, Alfano6 & Starlane Corsaro II (R & PRO)]

3.1 Mychron5S

The MyChron 5S is one of AIM's entry-level models, a company known for its telemetry systems for motorsports. It has been the go-to Lap Timer for karting enthusiasts for many years, earning a good reputation among drivers, mechanics, and developers.

The MyChron 5S's aesthetics are highly appreciated (if you ask at the tracks, more than half of the respondents will tell you that the MyChron is the prettiest). Its sleek design and perfect fit on any steering wheel make it visually appealing and practical.

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Similar to other Lap Timers in this report, it can be equipped with one or two temperature sensors, providing readings of the engine's water temperature and optionally the exhaust temperature to optimize your kart's performance through carburetion.



[MRSpro Ø320 for Mychron5/5S]

The MyChron 5S supports many optional extras, such as an expansion box that connects to SmartyCams, giving you access to telemetry like track maps, RPM, and speed. Additionally, you can choose from wheel speed sensors, acceleration and brake sensors, additional temperature sensors, and tire temperature sensors to further "professionalize" your driving (connectivity with SmartyCam is a bonus if you're concerned about how your videos look on social media).

The MyChron 5S is compatible with RaceStudio3, AIM's free data analysis software. This software is designed to help motorsport enthusiasts and professionals extract information from data collected during training and racing sessions.



[RaceStudio3 in action with the Mychron5S]

Key features of Race Studio 3 include:

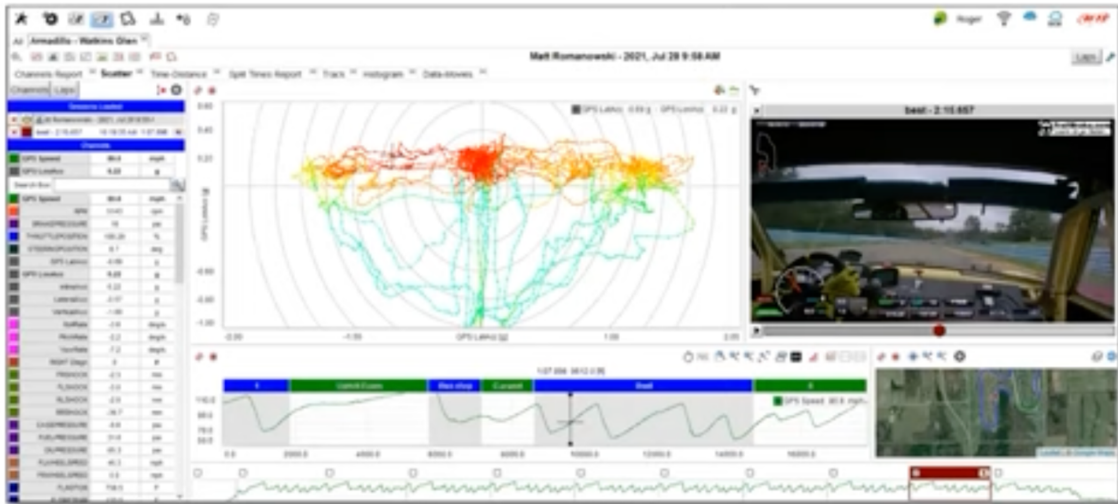
1. Real-time data analysis: Allows you to review performance data in real-time while on the track, helping you make instant decisions to improve your performance.
2. Lap comparison: Easily compare different laps to identify areas for improvement and evaluate your progress.
3. Graphs and visualizations: Provides detailed graphs and visualizations that allow you to analyze specific data such as speed, RPM, lap times, and more.

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4. Customizable settings: Race Studio 3 allows you to customize data visualization to suit your individual needs and preferences.
5. Data export: Facilitates the export of data for use in other programs or for sharing with your racing team.

Race Studio is compatible with PC (from Windows7 onwards), MAC, and Linux, and you can find plenty of online tutorials to make the most out of it.



RaceStudio3 (PC screenshot)

3.2 Alfano6

Although less known globally, the Alfano 6 Lap Timer is very popular in France and Belgium, where it originates from. It is slightly thicker than the MyChron5, but like it, it seamlessly integrates into any standard racing steering wheel. Particularly in our case, the Alfano fits very well with all versions of MRSpro.

What sets the Alfano 6 apart is its extensive library of over 2200 race tracks. You can load the specific track you are competing on and compare lap times with other Alfano users, making it a great analysis tool.



Alfano6

Additionally, Alfano provides its customers with a comprehensive data analysis software called ADA for free, allowing you to make the most out of your downloaded data. ADA is available in 2 versions:

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- A professional version named "ADA" created for Windows PC, iOS, and Android apps.
- A simplified version named "ADA light" designed for iOS and Android apps. The simplified version is optimized for quick and easy use on smartphones, displaying essential data from your sessions.

The professional version is innovative and powerful, offering analysis that is both simple and practical yet very potent. It also allows you to manage firmware updates for your Alfano products, circuit management, parameters, and much more.

ADA is compatible with Alfano6 1T (with one temperature sensor), Alfano6 2T (two sensors), PROIII Evo, among others.



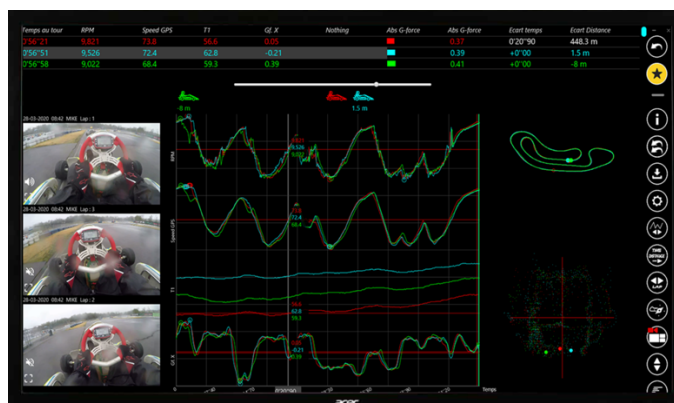
[ADA app screenshot (smartphone)]



[ADA screenshot (PC/iOS)]

As the only downside, it's worth noting that ADA only allows data synchronization with video from a camera (such as GoPro) on a Windows PC.

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[Captura de pantalla en aplicación ADA profesional (PC)]

3.3 Starlane Corsaro 2 (R and Pro)

The Starlane Corsaro 2 (R and Pro) are the smallest and lightest data acquisition devices in this comparison. Equipped with a touchscreen, they enhance functionality without increasing overall size, making it easier to integrate them into any steering wheel and especially any motorcycle handlebar.

The Corsaro comes standard with a "Wireless" module that receives inputs from various sensors and sends real-time information to the display or screen. Another interesting feature of the Corsaro is that the screen is fixed to the steering wheel or handlebar using an ingenious rubber-mounted bracket that protects the Lap Timer from the vehicle's vibrations, which can be destructive in some vehicles.

In the case of MRSpro steering wheels for Corsaro, they have a neoprene band around their perimeter that additionally protects them from side impacts against the carbon fiber panel.



[Rothmans MRSpro Ø320 for Corsaro II Pro and Cartek shift light]

The significant advantage of this configuration, besides reducing weight on the handlebar or steering wheel, is that it simplifies the installation of the data acquisition system in your vehicle and reduces cables around the steering column.

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Both Corsaro models allow wireless data download directly to your smartphone (also PC or MAC), and the Corsaro II Pro stands out with its polychromatic screen, which makes reading information easier and adds a distinctive touch to the comparison.

Like Alfano and AIM, Starlane offers free downloads of its MAAT application for PC (from Windows 7), MAC (High Sierra and later), Android, and iOS. You can download all these versions of MAAT on their website www.starlane.com.

MAAT is probably the most comprehensive software among the three in this comparison, although we will delve deeper into each of them in a future post.



[Different MAAT screenshots, Starlane's software for Corsaro II R and Pro]

4 Pricing

At this point, if the previous table hasn't helped you decide between options, it's time to delve a bit deeper because these "gadgets" are not exactly cheap.

Lap Timer	Version	
	1S	2S
MyChron 5S	€ 657	€ 750
Alfano 6	€540(*)	€ 640
Starlane Corsaro 2R	€519(*)	€642(*)
Starlane Corsaro 2Pro	€689(*)	€812(*)
(*: Pricing from www.RothmansRacing.com)		

5 Conclusions

Selecting the ideal Lap Timer for your races and training, whether in a kart, motorcycle, or scooter, won't be easy, as the four options presented offer similar features and prices. Below is a brief summary of what was previously discussed:

MyChron 5S: A reputable classic with an elegant design, direct connection to SmartyCam, and wide compatibility. Perfect for various motor disciplines and compatible with RaceStudio3, which is comprehensive for PC and Mac.

Alfano 6: Very popular with an extensive track library, ideal for competitive analysis thanks to its ADA software, compatible with PC, Mac, iOS, and Android. However, its compatibility with GoPro-type cameras is limited to systems running on Windows.

Starlane Corsaro 2 (R and Pro): Compact and powerful, both versions feature modern touchscreen displays, wireless data download, minimalist design, and lightweight. Ideal for motorcycle races (incorporates a tilt sensor) and karting. The wireless installation feature on handlebars and steering wheels gives it a significant advantage in terms of installation and overall handling. Its MAAT software is compatible with any system, on computers, and smartphones.

In summary, each Lap Timer has its own strengths, and with all four, you'll have an incredible tool in the world of motorsports. Alfano and Corsaro II R are at the lower end of the price scale, but not in terms of performance, while Mychron 5 and Corsaro II Pro are slightly more expensive and technologically more advanced, especially the Corsaro, which will surprise you and take your training to a professional level.

If you're still undecided, let their designs guide you, and as a last resort, consider their prices (although hopefully you've already made up your mind before 😊!)

6 Annexe

6.1 Sources

Rothmans Engineering site: www.rothmansracing.com

Aim Technologies site: <https://www.aim-sportline.com/>

Alfano site: <http://www.alfano.com/>

Starlane site: <http://www.starlane.com/>

6.2 Feature comparison

The following table summarizes the typical features of each model compared directly with their competitors.

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MyChron 5S	Alfano 6	Corsaro II R	Corsaro II Pro
GPS de 25 Hz	3 Sistemas GPS	GPS/GLOSNAASS/GALILEO	GPS/GLOSNAASS/GALILEO
Resolución: 268 x 128 píxeles	Resolución: 268 x 128 píxeles	Resolución: 128 x 64 píxeles	Resolución: 189 x 64 píxeles
Pantalla monocromática	Pantalla monocromática	Pantalla monocromática, táctil	Pantalla policromática, táctil
Peso: 390 gramos	Peso: 435 gramos	Peso: 95 gramos	Peso: 96 gramos
Resistente al agua	Resistente al agua	Resistente al agua	Resistente al agua
No inalámbrico	No inalámbrico	Inalámbrico	Inalámbrico
Descarga a Mac OS X, Windows®, Android, iOS	Descarga a Mac OS X, Windows®, Android, iOS	Descarga a Mac OS X, Windows®, Android, iOS	Descarga a Mac OS X, Windows®, Android, iOS
Software de análisis de datos: Race Studio 3	Software de análisis de datos ADA (solo Windows)	Software de análisis de datos: MAAT	Software de análisis de datos: MAAT
Circuitos cargados: 1500 circuitos	Circuitos cargados: 2200 circuitos	Circuitos cargados: 1000 circuitos	Circuitos cargados: 1000 circuitos
Sensor de RPM	Sensor de RPM	Sensor de RPM	Sensor de RPM
Inclinación (NO)	Inclinación (NO)	Inclinación (SÍ)	Inclinación (SÍ)
Sensor de movimiento de acelerador y freno	Sensor de movimiento de acelerador y freno	Sonda Lambda	Sonda Lambda
Sensor de velocidad de rueda	Sensor de velocidad de rueda	Sensor de velocidad de rueda	Sensor de velocidad de rueda
Sensores de ángulo de dirección	Sensores de ángulo de dirección	Entrada analógica de 0-5V (TPS o volante de dirección)	Entrada analógica de 0-5V (TPS o volante de dirección)
Sensores de temperatura de neumáticos	Sensores de temperatura de neumáticos	Entrada analógica de 0-5V (TPS o volante de dirección)	Entrada analógica de 0-5V (TPS o volante de dirección)
Sensor de underspark	Sensor de bujía	Sensor de RPM del motor	Sensor de RPM del motor
Sensor de temperatura de agua	Sensor de temperatura de agua	Sensor de temperatura de agua	Sensor de temperatura de agua
Sensor de temperatura de gases de escape	Sensor de temperatura de gases de escape	Sensor de temperatura de gases de escape	Sensor de temperatura de gases de escape
Compatible con SmartyCam	Compatible con cámaras tipo Gopro y otras		

[Comparative Table (ESP)]

6.3 About myself

Let me give you a glimpse into my past: during my youthful days, I had a bunch of motorcycles that ran on a gasoline and oil mixture. My very first was a Puch Cándor, a treasure I still hold onto today.

Back then, I couldn't have guessed that the buzz around 2-stroke motorcycles would lead to environmental concerns and eventual bans. But my love for mechanics drove me to pursue engineering, eventually landing me gigs with various manufacturers whose bikes adorned my bedroom walls.

These days, I'm on a mission to ease my conscience by helping technical teams speed up their projects in developing electric vehicles for both two and four wheels. Been at it for 12+1 years now (for those who can read between the lines).

Under my brand (R+) Rothmans, I've got a few tricks up my sleeve. Registered it years back under Class 12 of the Nice Classification, and trust me, I've got some surprises in store. No, I'm not diving into the world of electric cigarettes or anything combustion-related.

At R+, we've got three product lines: electrifying racing motorcycles and karts, crafting race car steering wheels in a special employment center in my homeland of Asturias, providing jobs for people with disabilities, and just rolling out a range of high-brightness, low-consumption LED lights made specifically for electric bicycles.

Feel free to swing by my website, drop me a line at info@rothmans.es, or hop on my newsletter where I dish out weekly nuggets related to vehicle engineering, technology, and motor racing.