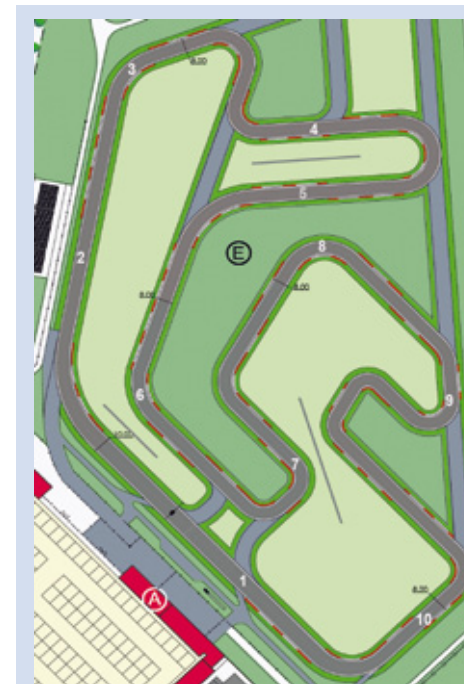




2012 ROTAX GRAND FINALS CIRCUIT



# Portimão tough ride ahead



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**Circuit length:** 1,600 metres  
**Circuit width:** 8-9 metres  
**Paddock and parking:** big and fully serviced

276 drivers in the four categories to be contested - Rotax Max Junior, Rotax Max Senior, Rotax DD2 and Rotax DD2-Master. Plus, the 310 drivers mark will be reached thanks to the 34 participants in the non-title race for Spanish and Portuguese drivers of the Rotax Micro Max category (7-12 years).

**The Kartódromo Internacional do Algarve (KIA) will host the 13th edition of the Rotax Max Challenge Grand Finals on 24th November - 1st December. We travelled to Portimão on a hot day of August to have a look at the facilities and to get the first impressions of the track.**

REPORT J.PEREZ-SANTANDER  
PHOTOS KIA P.O., KARTDATA

**T**he Kartódromo Internacional do Algarve is one of the **most modern karting circuits in Europe** and it is located in the southern part of Portugal, in the Algarve tourist region, known for its tourist attractions, good weather, white sandy beaches and good fish. We travelled to Portimão on a hot day of August just to have a look at the facilities and to get the first impressions of this track. The goal was to experience in advance the emotions the **310 drivers** that

will qualify to the 2012 Rotax Grand Finals will experience in November. For the track test, the Rotax and Intrepid distributor for Portugal and Spain Korridas offered us to use an Intrepid Cruiser DD2 and a Max-powered Praga Dragon. The kart track **is part of a big complex** that highlights the car racing circuit where several of the most important car and motorbike races at international level are held. The complex is 15 minutes away from the city of Portimão, 70 km from the nearest international airport of Faro, and 200 km

from Lisbon and. The circuit was inaugurated in 2010, and is known for its big and modern facilities. The 1,600 meters long track has a very smooth surface. **It's a fast track with a long straight of nearly 400 meters**, due to the fact that the main straight ends in a smooth right corner, which is done completely at full throttle, to access the second straight section to the real first corner. This allows a high speed and full throttle for more than 12 seconds. In this aspect, Portimão is a fast track, similar to other reference circuits in international karting, like Zuera International Circuit (Spain), although in the case of Portimão, we also find a much slower and technical part and, perhaps, even more selective. This means that Portimão is a circuit with a large contrast between the areas of

maximum acceleration and slower parts. The width of the track, between 8 and 9 meters, can be a little bit narrow, considering the high average speed and compared with other modern international kart tracks where the width goes up to 10 meters. However this does not take away the beauty of this spectacular circuit, marking it as a fast and selective track with several overtaking areas, which need a great confidence and trust from the driver. In fact, **the 2012 Rotax Grand Finals will see the largest entry list** in the history of the event, reaching

FIND OUT MORE ON THE 2012 ROTAX MAX CHALLENGE GRAND FINALS ON [WWW.MAXCHALLENGE-ROTAX.COM/EVENT2012/GRAND\\_FINAL.HTML](http://WWW.MAXCHALLENGE-ROTAX.COM/EVENT2012/GRAND_FINAL.HTML)



**1** We access the main straight in which is situated the finish line, drawing a quick 90 degree corner that can be done with full throttle and opening maximum outwards to get the highest possible speed to the finish line. The straight is wide and about 200 meters long; the kart reaches the maximum speed, depending on the chosen gear ratio (usually a very long gear ratio) and can exceed 125 km / h in the case of a Rotax Max or 135 km / h on a DD2. It is always full throttle even when you reach the first corner of the track, which is a smooth, wide right hand with a very large radius, which means that it is almost an extension of the home straight, or a smooth link with the second part of the straight.

**2** This second part of the straight is about 175 meters long, slightly shorter than the first one. However you can maintain the high speed or in the case of the fastest karts as the Rotax DD2, you may continue to rise slightly before braking for the first real corner. In total, the acceleration zone in Portimão amounts to about 12 seconds during which the driver must concentrate on getting the maximum speed, and where the slipstream can be essential in the race.

**3** First braking point. After this section, it's time to face the first major braking point of the track. It is one of the most selective points of the track, precisely due to the high-speed that you reach before

## the lap

Let's see the main characteristics of this modern circuit, section by section.

this corner. In fact, there are three different angles that form an irregular corner with decreasing radius that will lead to an added difficulty for the driver in the braking manoeuvre.

The first of the three angles can be done without lifting off the throttle before braking hard. It all depends on braking capacity of the kart and driver's skills to properly control the kart while the centrifugal force increases outwards (to the left). By braking a bit sooner, it will be easier to insert the kart correctly in the right-hand, but will leave some opportunity for the other drivers to overtake. By delaying braking, it will make overtaking from drivers behind more difficult, but will be a significant increase in the difficulty of controlling the kart to keeping the inside of the corner without losing the line.

The final part of the corner closes to the right to link to a left corner with equal angle and radius, making a «zigzag» (right-left)



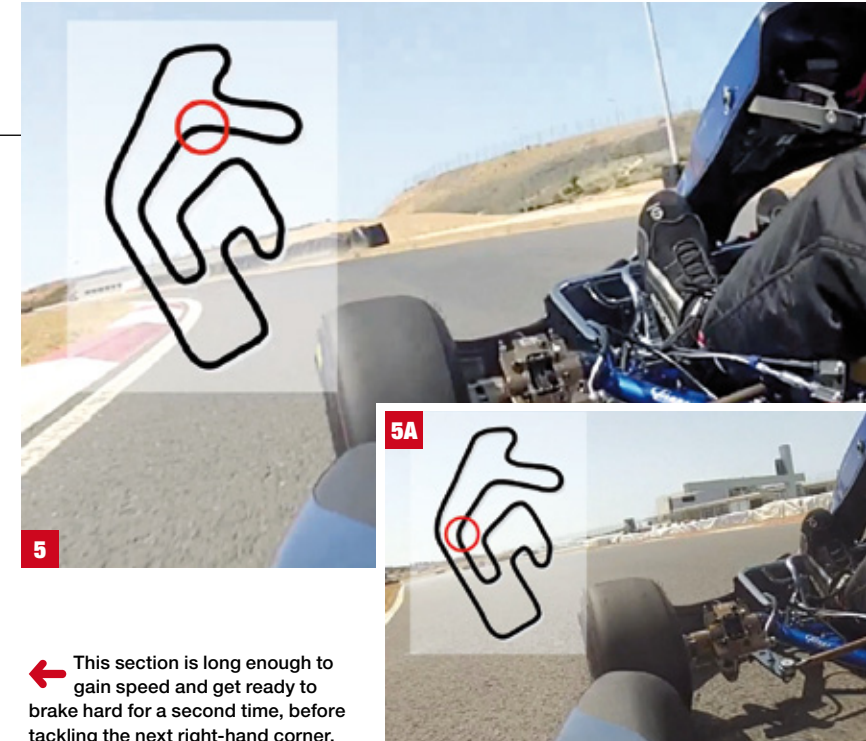
where it may be appropriate to use both internal curbs to earn some extra meter and extend slightly the angle, always when this does not compromise too much kart control on the outside of the left corner when you go back to full throttle.

**4** After this area a short straight follows where we accelerate full throttle to reach maximum speed from the outside of the left corner to the outside of the next 180 degree corner, this time a right hand corner of medium radius. This section is long enough to gain speed and get ready to brake hard for a second time, before tackling the next right-hand corner. This 180 degrees corner needs an appropriate braking force in order to seek the internal apex as soon as possible for controlling the throttle on the output of the corner where it tends to rise slightly. It is appropriate to exploit the width of the track

on the exit of the corner, even using the outside curb.

**5** Then we arrive to another faster area of the circuit, a smooth left bend with an extremely spacious radius allowing us to do it without lifting off the throttle. This is followed by a straight and a left corner, again with a wide radius, which we reach at a considerable speed and in which, depending on the type of kart and the grip, we may do it at full speed (in the case of a Rotax Max) or we must slightly lift off the throttle in case of the Rotax DD2. In both cases, the centrifugal force is considerable and requires the driver to keep maximum concentration and endurance.

**6** We reached another small straight of about 100 meters at high speed, parallel to the main straight, that leads us to the third hard braking point. This is the point where



← This section is long enough to gain speed and get ready to brake hard for a second time, before tackling the next right-hand corner.

overtaking occurs more often. Braking should be hard and efficient in order to reduce speed before drawing the 180 degrees radius left hand corner. It is a sharp corner and relatively slow that breaks the fast rhythm to which we were used up until then. The harsh and sudden decrease in speed makes this braking point very selective as sometimes it is difficult to draw correctly this left corner using the inner vertex.

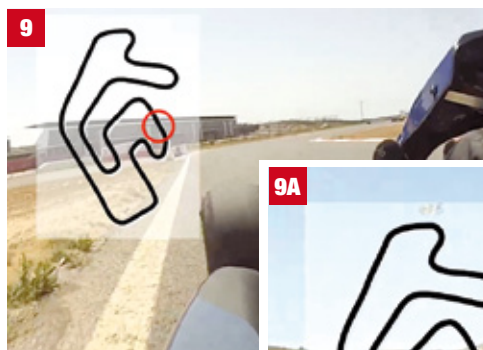
**7** Corner exit must be done partializing the accelerator without opening the gas completely because then we will find another wide right-hand corner that can be done full throttle using as wide a line as possible, to allow us gaining speed towards another short straight not even 100 meters long.



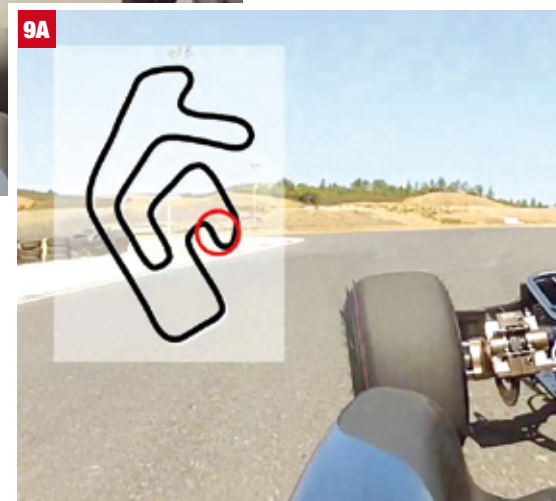
8



8A



9



9A

→ A fast section of two consecutive right-left corners, both with 180 degree angles and short radius.



10



10A

**8** After this short straight, we come to a 90 degrees right-hand corner of medium radius that can be drawn at considerable speed without braking at the entrance. You need only to lift slightly off the throttle to reach the inner corner. From the inner vertex, go back quickly to full throttle to reach the outside of the corner with strong acceleration, also taking advantage of the full width of the track.

**9** Again the speed rapidly increases the output of this fast right-hand corner and the straight section that follows, a short straight that leads us quickly to another key point of the track. Hard and «neat» braking will be needed to do the slower corners of Portimão. It's a fast section of two consecutive right-left corners, both with an angle of 180

degrees and short radius. This means two slow corners which we must do at a very controlled speed partializing the accelerator. The right hand corner can be complicated if we failed to brake properly and find the inner vertex. We immediately meet the left closed angle, again requiring a correct partializing of the throttle while using the steering wheel gently. By drawing the curve properly to the outside, which progressively opens, allows us to have maximum acceleration out of this curve.

**10** We reach final part of the track. A new acceleration straight about 80 meters leads us to the last two corners before reaching the finish line. Two linked corners, both of

90 degrees and average radius. At the first 90 degrees corner we must brake quickly to reduce slightly the speed and to search the inner apex, which we leave at full throttle and opening the line using the outside kerb. From here we will start to draw the second 90 degrees corner, the last of the lap before the homestrait, using a slightly wider line than the previous one. It is a fast corner that can be done full throttle, but controlling the steering wheel firmly to maintain an ideal line (outside-inside-outside). We need to take full advantage of the entire width of the track, using the outside kerb that leads us to the first part of the long straight at full gas.