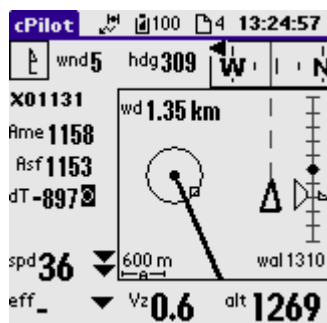


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Navigation



The navigation page

This is the page to use during flight. It shows the flight parameters: height, calculated wind speed, speed to fly. The map shows the paraglider position and the active route.

From any other page, you can access the navigation page by pressing the "up" or "down" keys.

The appearance of this page and the data shown can be customised by the [display setup](#) page.

Data description

Vz, alt

Vz **0.9** alt **1352**

Altitude and vertical speed

The altitude value is sent by the GPS via the NMEA protocol (\$GPGGA sentence) or the Garmin protocol. The vertical speed is calculated from the altitude changes in the last 10 seconds.

13:00:19

Time

The time shown is the one sent by the GPS, not the palm time.

task01

Route name

The name of the active route.

X01131

Waypoint name

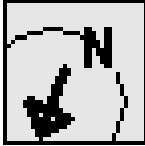
The name of the next waypoint.

hdg

hdg **237**

Compass and heading

Analog and digital indicators of the heading. The arrow shows the direction to the next waypoint.



Round compass

Compared to the linear compass, it shows more evidently the heading to the next waypoint.

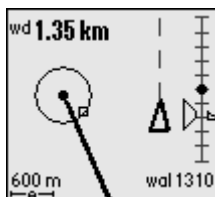
spd, eff



Speed and efficiency

Ground speed and efficiency calculated from the data sent by the GPS. The triangles show whether you have to accelerate or decelerate to fly at the maximum ground efficiency or at the speed to fly.

Two upward-pointing triangles on the right of the speed indicator mean that you have to increase your speed by more than 6 km/h (3 km/h for each triangle) to fly at the calculated speed to fly (or at the maximum efficiency if you are looking at the triangles besides the efficiency indicator); one upward-pointing triangle means that you have to increase your speed of 3 to 6 km/h; a small diamond indicated that your speed is optimal. Downward-pointing triangles suggest that you have to decelerate to fly at the speed to fly or at maximum efficiency.



Map

Your position is represented as a triangle, the waypoints as small circles. The filled circle is the next waypoint (its cylinder is drawn), the open circles are the other route waypoints. The route sequence is shown by grey lines connecting the waypoints, except for the line connecting the next with the second next waypoints, which is drawn as a thick black line (to show where you have to go after validating the next waypoint). Additionally, a ruler is drawn (can be centered on the next waypoint) showing graphically the calculated arrival height at maximum efficiency and at speed to fly:



See [Arrival-height ruler](#) for a detailed description.

The map can be configured from the [Map-setup page](#).

Warning: to calculate all the arrival-altitude values, CompetitionPilot takes into account the arrival at the cylinder border, not at the waypoint.

wd

Distance to next waypointwd **1.90 km**

Distance to next waypoint (not to the next waypoint cylinder).

wal

Waypoint altitudewal **1310**

next waypoint altitude.

Ame, Asf

Arrival altitude at the next waypointAme **1083**
Asf **1062**

Arrival altitude above mean sea level at the next waypoint calculated at maximum efficiency (Ame) and speed to fly (Asf). CompetitionPilot calculates these values by taking into account the wind speed and no sinking/lifting air.

Warning: to calculate all the arrival-altitude values, CompetitionPilot considers the arrival at the cylinder, not at the waypoint.

Dme, Dsf


Arrival height above waypointDme **-77**
Dsf **-125**

Arrival height at the cylinder above the waypoint at maximum efficiency (Dme) and at speed to fly (Dsf.) The calculation is performed as for the **Ame** and **Asf** parameters. The Dme parameter is defined as $Dme = Ame - wal$, while $Dsf = Asf - wal$. **wal** is the altitude above mean sea level of the next waypoint.

Warning: to calculate all the arrival-altitude values, CompetitionPilot considers the arrival at the cylinder, not at the waypoint.


Map scale

The map scale can be changed manually using the "up" and "down" keys. Touching the map with your finger restores the automatic zoom.

A small "A" character in the middle of the scale bar indicates that the autozoom is active: 

A "T" character indicates that the thermal autozoom is active.

wnd



Wind indicators

The wind speed and direction are automatically calculated by CompetitionPilot when you turn more than 270 degrees. They are drawn using the standard meteorology symbol: an arrow indicating the wind direction with a certain number of "fins" representing the speed. A short fin corresponds to 5 knots, while a long one to 10 knots. The speed is also indicated digitally in km/h and labelled with "wnd". The direction is referred to your heading: an arrow pointing upward means that you are flying downwind.

The wind indicator with an "N" character, in the lower picture, shows the North-referenced wind direction. It is useful when used within a North-up map.



Turn to next waypoint

How many degrees and in which direction you have to turn to reach the next waypoint.



Average climbing rate

Round mean square value of the vertical speed in the last 30 minutes. It is an indicator of the strength of the lift/sink encountered during the flight. CompetitionPilot uses this value as McCready parameter and to estimate the arrival height to the next waypoint.



Time remaining to start opening

Time remaining, in min:sec, to the start window opening, if the task is a race to goal. After the start opens, it shows **Enter** or **Exit** depending on the start type (on entry or on exit.) After validating the start, this parameter shows the navigation status (last waypoint, Goal).

cyD



Distance from the next cylinder

The distance from the cylinder of the next waypoint is shown here.

A positive value indicates that you are outside the cylinder, while a negative one that you are inside the cylinder.



Arrival-height ruler

The ruler can be drawn attached to the next waypoint or added to the display as an additional parameter in any point of the display. In the latter case you can change its size with the + and - buttons in the display-setup page.

Ruler operation

The ruler shows the calculated arrival height at the next waypoint flying at maximum efficiency or at the speed to fly. The filled circle in the middle of the ruler represents the waypoint. Each tick corresponds to 100 m above/below the waypoint.

The trapezoid displays the arrival height at maximum efficiency. To read the ruler, you have to consider the lesser base of the trapezoid, drawn as a red segment in the picture: here, it indicates a region of the ruler that goes from approx 280 m to 380 m above the waypoint (remember that each tick corresponds to 100 m); this means that, if you fly at maximum efficiency, you are likely to arrive at the next waypoint cylinder with approx 280 to 380 m above the waypoint. The optimistic guess, 380 m in this example, is calculated by CompetitionPilot considering zero sink/lift during the transition. The pessimistic condition (280 m) is calculated considering an average sink equal to half the McCready parameter.

Similar considerations apply to the arrival height at the speed to fly. In this case the expected range is represented by a rectangle triangle. The green segment in the picture shows the arrival height interval: from 250 to 350 m in this example.

EtN

Efficiency required to the next waypoint

Efficiency required to reach the next waypoint cylinder at the height of the waypoint itself. $EtN = \text{cyd} / (\text{alt} - \text{wal})$. **cyd** is the distance to the next cylinder, **wal** is the altitude above mean sea level of the waypoint, **alt** is your altitude above mean sea level.

AtG, DaG, EtG, RaG

Arrival height at goal above mean sea level,

Arrival height above goal,

Efficiency required to reach the goal,

Altitude (above mean sea level) required to reach the goal

CompetitionPilot calculates continuously the arrival height at goal at the speed to fly considering the wind speed and glider polar curve. This helps the pilot choosing when to leave for

the final glide to goal.

For further details on these data, see: [Final-glide calculation](#)

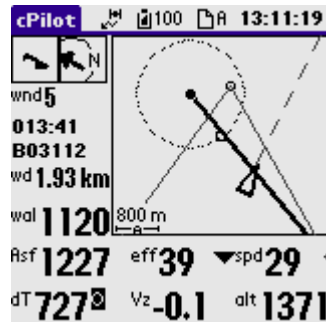
dT,

dT ruler



Early/late arrival at the start pylon

dT shows how early (or late) you will arrive at the start pylon flying there from where you are at maximum efficiency (this also holds if you are inside the cylinder). CompetitionPilot takes into account all the waypoints that have to be validated before the start waypoint, if there are some.



In the previous figure, for example, **dT** shows that if you fly straight to the start cylinder at the speed to fly, you will arrive 727 seconds (approx 12 minutes) before the window opens. It might be more convenient to stay in a thermal and wait.

When **dT** display zero, CompetitionPilot emit an audible alarm to tell you that if you start the transition (at the speed to fly) to the start pylon immediately you will arrive there exactly at the opening of the pylon. If the value is negative, you will arrive late.

This parameter can be drawn also analogically, as shown on the left, by activating the **dT start ruler** in the display-setup page.

Each tick of the ruler corresponds to 10 s. The ticks are not uniformly spaced to allow for maximum readability when **dT** is close to zero, while allowing to show also large **dT** values.

The value of **dT** is represented as a big rectangle. If **dT** is positive (you are early) the rectangle is filled, as in the figure on the left. If **dT** is negative, only the rectangle frame is drawn, as in the following figure:



When calculating **dT**, CompetitionPilot takes into account any waypoint that has to be validated before the start pylon.

The arrival time to the start pylon is determined considering the optimised route.

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