

RunwayHD iPad Tablet

User Guide

iOS 8 & 9

Version 3.3



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Overview

The RunwayHD app is a VFR planning and navigation device featuring a full airspace warning system, access to NOTAMs, weather, airfield data and layered mapping.

Chart and airspace data can be downloaded to RunwayHD via Wi-Fi and/or a 3G network.

New Features

Flarm



Support for Flarm via AIR Connect, please see in app for full Flarm guide.

Pilot Aware



Support for Pilot Aware traffic awareness device.

Terrain Shading



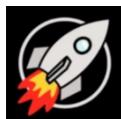
Adds the ability to shade the map in different colour relative to the aircrafts current altitude.

NOTAM Icons



Some NOTAM types can now be displayed as an icon, rather than an area. This is mostly implemented for point (Cranes, kites etc) objects.

Flight plan filing



Improvements to data screening as the form is filled out and new search option for alternate airfields.

1. **Buttons**

A few buttons make it easy to lock the tablet and adjust the volume.

1. ***Sleep/Wake button***

You can lock the tablet by putting it to sleep when you're not using it. When you lock the tablet, nothing happens if you touch the screen.

2. ***Lock tablet***

Press the Sleep/Wake button.

3. ***Unlock tablet***

Press the Home button or the Sleep/Wake button, and then drag the slider.

4. ***Turn tablet off***

Hold down the Sleep/Wake button for a few seconds until the red slider appears, then drag the onscreen slider.

5. ***Turn tablet on***

Hold down the Sleep/Wake button until the manufacturer logo appears.

If you don't touch the screen for a minute or two, the tablet locks automatically (this function disabled when using RUNWAYHD). You can change how long it takes the screen to lock, or set a passcode to unlock the tablet.

6. ***Set the auto-lock time***

Go to Settings > General > Auto-Lock

7. ***Set a passcode***

Go to Settings > General > Passcode Lock.

2. **Home button**

The Home button lets you get back to the Home screen at any time. It also provides other convenient shortcuts.

1. ***Go to the Home screen***

Press the Home button

On the Home screen, tap an app to open it. See Opening and switching between apps

3. *Display recently used apps*

When the tablet is unlocked, double-click the Home button. The apps will then appear in the centre of the iPad screen, showing the most recently used apps.

Swipe the screen to the left to see more apps.

4. Volume button and Side Switch

Use the Side Switch to disable audio alerts and notifications. You can also use it to lock the screen rotation and prevent the tablet display from switching between portrait and landscape mode.

1. *Adjust the volume*

Press the Volume button up or down to increase or decrease the volume.

2. *Mute the sound*

Press and hold the bottom end of the Volume button.

3. *Set a volume limit*

Go to Settings > Music > Volume Limit.

Or use the toggle buttons on the right hand side of the device to adjust the volume and to mute the sound.

4. *Mute notifications, alerts, and sound effects*

Slide the Side Switch down.

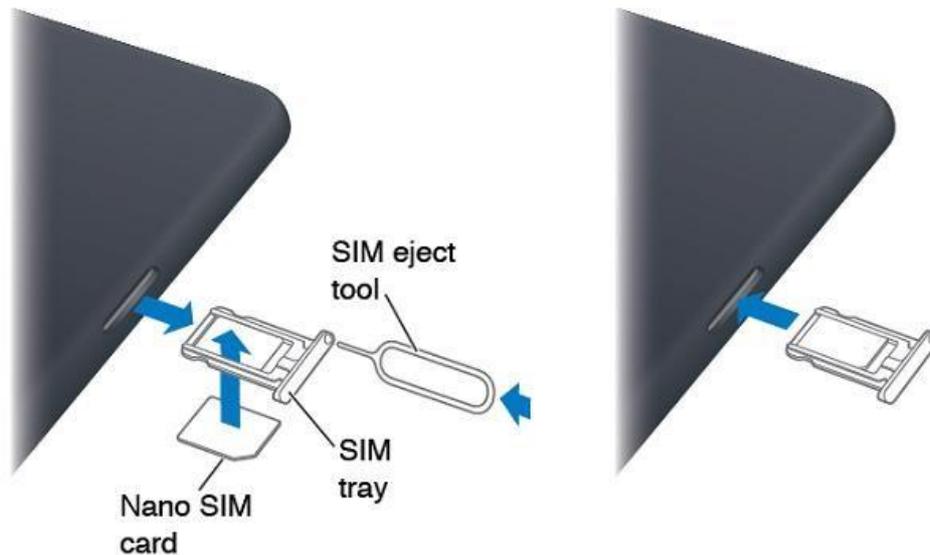
5. *Lock the screen rotation*

Go to Settings > General > “Use the Side Switch to...,” then tap Lock Rotation.

Use the Volume button to adjust the volume of alerts and sound effects and other media.

5. SIM card tray

The SIM card in your device is used for cellular data. If your SIM card wasn't preinstalled or if you change cellular data carriers, you may need to install or replace the SIM card.



1. ***Open the SIM tray***

Insert the tip of the SIM eject tool into the hole on the SIM tray. Press firmly and push the tool straight in until the tray pops out.

Pull out the SIM tray to install or replace the SIM card. If you don't have a SIM eject tool, you may be able to use the end of a small paper clip.

NOTE – in order for RunwayHD to pick up your position you do not need to have a SIM Card installed in your iPad. The Cellular iPads have an inbuilt GPS which will automatically pick up your position

6. **Side Switch**

The orientation lock icon appears in the status bar when the screen orientation is locked.

7. **Adjusting the screen brightness**

You can manually adjust the brightness of the screen, or turn on Auto-Brightness to have the tablet use the built-in ambient light sensor to automatically adjust the brightness.



1. Adjust the screen brightness

Swipe up from the bottom of your iPad screen and drag the brightness slider.

2. Turn Auto-Brightness on or off

From the home screen (accessed by pressing the Home button below the screen), select the Settings icon and then select Brightness & Wallpaper.

8. Typing

The onscreen keyboard will appear and lets you type when you need to enter text.

1. Entering text

Use the onscreen keyboard to enter text, such as destination airfield names etc. This can be done by either the stylus or the finger of the user.

1. Enter Text

Tap a text field to bring up the keyboard, and then tap keys on the keyboard.

As you type, each letter appears above your thumb or finger. If you touch the wrong key, you can slide your finger to the correct key. The letter isn't entered until you release your finger from the key.

2. Type Uppercase

Tap the Shift key before tapping a letter. Or touch and hold the Shift key, then slide to a letter.

3. Quickly Type a Period/Full Stop & Space

Double-tap the space bar.

4. Turn on Caps Lock

Double-tap the Shift key. To turn caps lock off, tap the Shift key.

5. Enter Numbers, Punctuation or Symbols

Tap the Number key. To see additional punctuation and symbols, tap the Symbol key

6. Enter Accented Letters or Other Alternate Characters

Touch and hold a key, then slide to choose one of the options.

7. Hide the Onscreen Keyboard

Tap the Keyboard icon key

8. *Set Options for Typing*

Go to Settings > General > Keyboard

9. **Editing Text**

If you need to edit text, an onscreen magnifying glass lets you position the insertion point where you need it. You can select text, and cut, copy, and paste text. In some apps, you can also cut, copy, and paste photos and videos.

1. *Position the Insertion Point*

Touch and hold to bring up the magnifying glass, then drag to position the insertion point.

2. *Select Text*

Tap the insertion point to display the selection buttons. Tap Select to select the adjacent word, or tap Select All to select all text.

You can also double-tap a word to select it. Drag the grab points to select more or less text. In read-only documents, such as .pdf documents, touch and hold to select a word.

3. *Cut or Copy Text*

Select text, then tap Cut or Copy.

4. *Paste Text*

Tap the insertion point, then tap Paste to insert the last text that you cut or copied.

To replace text, select it before tapping Paste.

5. *Keyboard Layouts*

On the tablet, you can type with a split keyboard that's at the bottom of the screen, or undocked and in the middle of the screen.



1. **Adjust the Keyboard**



Touch and hold the keyboard hide button then:

2. Use a split keyboard

Slide your finger to Split, then release.

3. Move the keyboard to the middle of the screen

Slide your finger to Undock, then release.

4. Return to a full keyboard

Slide your finger to Dock and Merge, then release.

5. Return a full keyboard to the bottom of the screen

Slide your finger to Dock, then release.

6. Turn Split Keyboard on or off

Go to Settings > General > Keyboard > Split Keyboard.

You can use Settings to set the layouts for the onscreen keyboard.

10. Side Switch

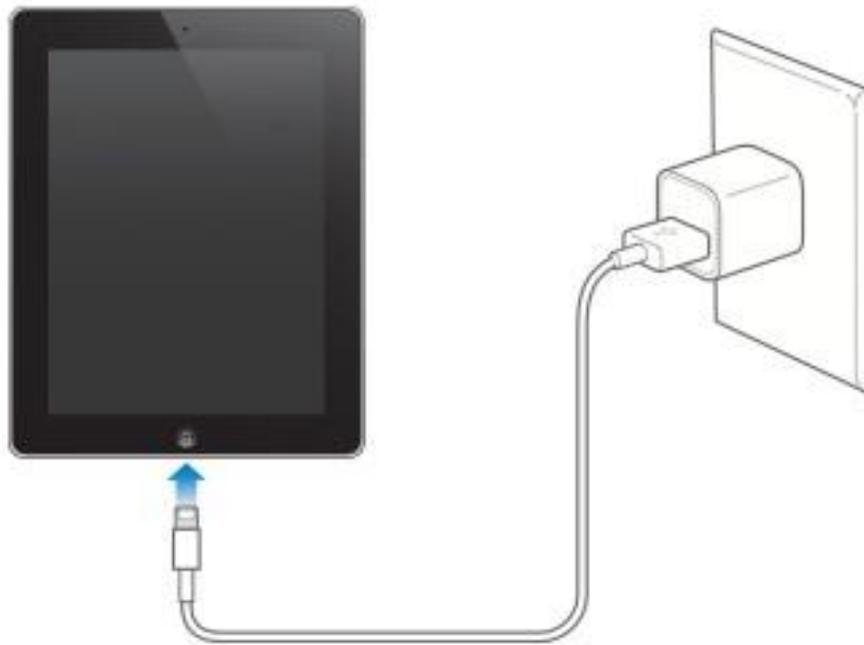
The orientation lock icon appears in the status bar when the screen orientation is locked.

11. Battery

The tablet has an internal, lithium-ion rechargeable battery. For more information about the battery — including tips for maximizing battery life—go to www.apple.com/batteries

1. Charge the battery

The best way to charge the tablet's battery is to connect the tablet to a power outlet using the included cable and USB power adapter



The tablet may also charge slowly when you connect it to a USB 2.0 port on the Base Station.

Important: The tablet battery may drain instead of charge if the tablet is connected to the Base Station when the Base Station is turned off or is in sleep or standby mode, to a USB hub, or to the USB port on an external keyboard.

The battery icon in the upper-right corner of the status bar shows the battery level or charging status.



In the main operating system, go to Settings > General > Usage and turn on the setting under Battery Usage.

Important: If the tablet is very low on power, it may display one of the following images, indicating that the tablet needs to charge for up to twenty minutes before you can use it.

If the tablet is extremely low on power, the display may be blank for up to two minutes before the low-battery image appears.



Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced.

12. RunwayHD - Getting Started

1. *Setup*

After you download RunwayHD from the App Store, run RunwayHD by pressing on the icon.

You will need to login using your ThunderCloud details. If you have not already created an account you can do so - <http://users.airboxaero.com/UserAccount/Registration.aspx>

Select the appropriate base map for your region to download and allow the software to FULLY download and install this.

The charts can be installed via Wi-Fi (Settings > Downloads).

Note that further help is available within the application by navigating to Documents and selecting 'Help'.

2. *Turning on RunwayHD*

To activate RunwayHD the User must select the RunwayHD icon from the Main Menu screen on the tablet. The app will start up, displaying the Load Screen. If the device is connected to the Internet and updates are available, the User will be given the opportunity to update the airspace data or install new charts.

RunwayHD will display a screen showing when the last updates occurred for NOTAMs and airspace. The User must acknowledge this information to continue to the Main Map Screen.

3. Moving about the Map Screen – Panning & Zooming

1. One Finger

Users can pan around the map, select buttons, and type when flight planning by just using their finger.

2. Two Fingers

Placing two fingers on the map and holding them there produces a virtual ruler. The ruler displays distance, time between two points and an estimated fuel burn.

3. Press & Hold

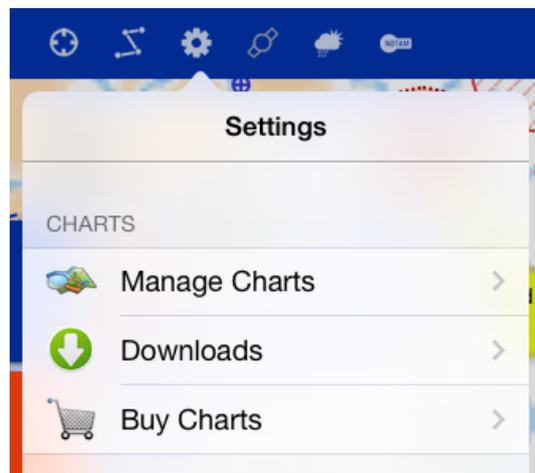
Pressing a finger on the map and holding for 1 second will open up a context menu relevant to the point on the map which was pressed. From here a user can choose a number of options, for instance Add Waypoint (to an existing route), Navigate To (the point on the map selected) or he or she might want to view airfield information located at the point selected. See Context Menu for full list of available options.

4. Rotating the Map

When the user has Track Up selected as On in the Display options (Settings > Display > Track Up) he or she can rotate the map around a central point between their fingers.

13. Downloading Charts via Wi-Fi

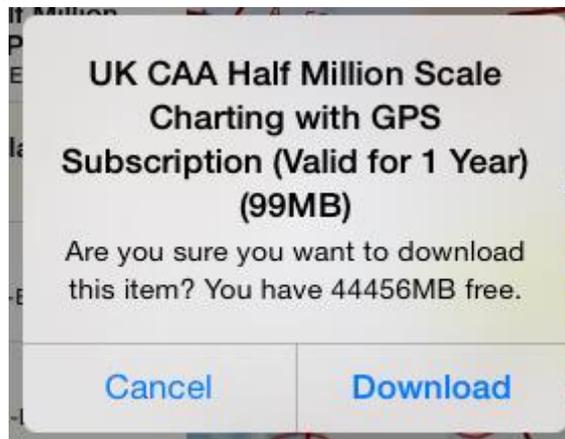
1) Select Settings menu.



2) Select Downloads.



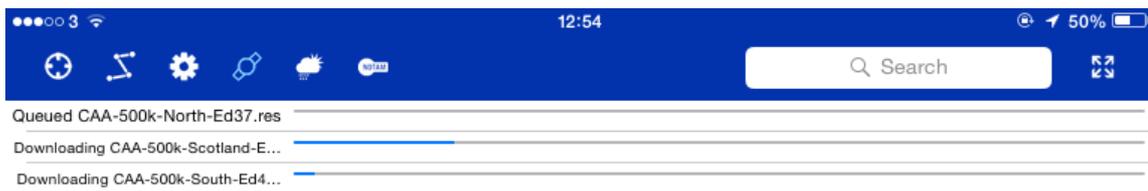
3) Select the item you wish to download.



NOTE:

It is best to select items individually. Downloading large amounts of data at once can cause downloads to fail. If this occurs we recommend selecting 'Individual Items' at the bottom of the Downloads screen and choosing maps one at a time.

A progress bar at the top of the map screen will show download and then installation progress. Following the download of some document files it is required to restart the software.



Should the download fail then RunwayHD will notify you and will give the option to try again. Should a download fail multiple times check internet and Wi-Fi connectivity and refer to the service & support team.

14. Screen Layout Guide

1. *Main Map Screen Guide*



Centre Aircraft

The Centre Aircraft button, when pressed, turns blue to show the feature is active. The map screen will now centre on the aircraft allowing the map to scroll freely as the aircraft flies from point A to B. If the User interacts with the screen in any way, the feature unlocks and the User can pan round the map freely. To re-center the view on the aircraft once more press the button again. This can also be achieved by pressing the orange arrow or on the aircraft icon.



Route Options

Pressing Route Options buttons opens the Route Options menu and will display any currently planned route. Options include Loading and Saving routes, receiving a narrow route NOTAM brief and viewing Flight Logs and ability to build a new route.



Settings

The Settings buttons opens the Settings Menu which allows the user to fully customise RunwayHD to their personal preferences.



Airspace Toggle

The Airspace toggle button allows users to turn on and off a visual representation of the airspace around them. Airspace warnings are still generated even if airspace is not visually displayed.



Weather Toggle

The Weather button turns on and off the Weather access button. This on-map button allows users to view, at a glance, airfield weather, European Rainfall Radar and Winds Aloft.



NOTAMS Toggle

NOTAMs can, be viewed as visual circular representations on the map when this feature is turned on. Pressing and holding on a NOTAM will produce the context menu. Scroll down to the bottom of the list to access the content of the NOTAM under NOTAMS.



Terrain Shading

Shades the map to indicate relative height to the aircraft. Please see later in this guide for full details.



Search

Pressing on the Search bar brings up the virtual keyboard and allows users to search for airfields, VORs, NDBs etc.

If the tablet has access to the Internet, more in depth searches can be made, for example street names and house numbers, famous landmarks, towns etc.



Full Screen Toggle

Pressing the Full Screen button toggles the view between full screen and regular screen mode. Full screen mode offers an almost complete map view with no other information present.



Zoom In & Out

The Zoom buttons allow the user to zoom in and out of the map.



Layers

The Layers button allows the User to quickly select a map type from those available at that given location. The User can opt to lock that map in place by pressing the padlock icon. This stops RunwayHD from auto-selecting the best available chart type for the current zoom level.

Select Google mapping from this button. This requires an internet connection.



Side Profile Toggle

The Side Profile can be toggled on or off by pressing this button.



Map Screen

Pressing the Map button will return the User to the Map Screen.



Scratch Pad

Pressing the Scratch Pad will take the user to the Scratch Pad; an area where notes can quickly be made and stored for later retrieval.



Documents

Pressing the documents button takes the User to the Documents section of the app where photos and .pdf documents are stored.



Data Bar

The Data Bar provides the User with flight relevant information such as Speed, Altitude, Track, and Bearing. It also gives the user Distance to End Waypoint which, when tapped, toggles to Time to End Waypoint and ETA.

A GPS accuracy indicator is also present, which gives a figure for the accuracy of the signal being received.

15. RunwayHD Settings menu



The Settings menu can be accessed by pressing the cog button located at the top of the main map screen. The Settings menu allows you to manage maps, initiate downloads of new maps from your Cloud account, tweak your aircraft and display settings, enter your User account details and generally set up RunwayHD for the task ahead.



Manage Charts – The Chart manager allows the user to create a hierarchy for the charts you have loaded into RunwayHD.

Charts at the top of the list are given display preference over charts lower down on the list and you have the option to move charts up and down this list. To do this press **Edit** and move your chosen

chart by sliding the three horizontal grey bars up or down (indicated by the green arrow in the diagram below). Pressing



NOTAM Settings – Allows the user to change the NOTAM display settings eg IFR, or VFR only etc.



Navaid – Select which navaid types to see overlaid on the map. VRP, VOR, NDB & IFR intersections are all supported.



Saved Points of Interest – Allows POIs to be edited (press to edit) and deleted (swipe to delete). A POI is a user added icon which can be placed on the map as a tactical aid.

Documents – Toggles on/off the icons for documents overlaid on the map.

Custom Overlays – Displays all installed custom overlays on the device with the ability to turn each on or off or to delete them.



Units - Allows the user to change unit display settings. E.g Knots or miles per hour & co- ordinates to OS Grid or MGRS.

16. Display Settings



Track Up – When activated, orientates your position so that your icon is always pointing upwards and the map rotates when you change direction. This option also allows the user to, at any time, rotate the map with his or her fingers.

Maximise View Ahead – Positions the aircraft icon on the map screen to show as much forward facing map tile as possible.

Scale – Toggle map scale on and off.



Lat Long Grid – Toggles a Lat Long Grid over the map



Coordinates – Toggles your position coordinates on the map data bar.

Planning Top (ft) – Set a maximum altitude for airspace display when planning. Any airspace outside this range will not appear during planning.

Five Minute Line – Toggles on/off a straight line vector display which shows your position in five minutes time (Line split into five one minute segments).



Zoom In & Out - The Zoom buttons allow the user to zoom in and out of the map.

Offset on Drag – Offsets a waypoint from underneath a users' finger so it can more easily be placed precisely on the map.



Show Rubber Band – Produces a virtual rubber band that always stretches from the aircraft icon to the next waypoint on a route.



Rubber Band to End – Stretches the virtual rubber band to the final end waypoint on a route.



Extended Centre Lines – Toggles the extended runway centre lines feature that produces runway centerlines for start and destination airfields (where such data exists).



Zoom on Destination – This feature zooms the map in on a destination end waypoint to improve situational awareness on approach. The feature works particularly well when different scales of chart are present (for example 500k, 250k and Ordnance Survey charting) or when approaching an airfield with an associated airfield diagram.



Waypoint Altitude – The user can set his or her average cruise height in feet to which waypoints will be assigned when creating a route.



HAT Boxes - When activated, HAT boxes appear next to the route line giving navigation information for that leg.



Hatbox Opacity - Sets opacity of the HAT boxes.



Hatbox Size – Sets Hatbox size on the map.

Note – Boxes will scale with zoom level and auto hide.

17. Aircraft Settings



GPS Icon – Allows the main GPS icon to be changed to a variety of different aircraft types, colours and sizes.



Cruise Speed – The user can change the average cruise speed of his or her aircraft. This is used to calculate time to destination estimates when flight planning & in the virtual ruler.



Hourly Fuel – The user can change the hourly fuel burn in litres or kilos (see unit setup) for his or her aircraft. This is used in the fuel burn estimates and calculations when flight planning or using virtual ruler.

Bounce Initially – Airspace Alerts animate to draw users attention when first initiated.

Minimise on Change – Airspace Warnings are displayed in a minimised state (User can maximise warning display by pressing it).



Demo Mode – Toggle Demo Mode on and off.

Arrival Time Guide – This feature is useful for display pilots or persons wishing to arrive at a designated waypoint at a specific time.

Show Status Bar – Toggle on-off for device Status Bar.

Draw Airspace Live – Draws airspace over the map as it is scrolled, panned and zoomed by the user.

Lock Tracking – Locks the Track Aircraft button so the user cannot scroll the underlying map when activated

Radius – Controls the search radius applied to web searches. I.e. Prevents showing search results for the whole world.

18. RunwayHD Route Options



Route options can be accessed by pressing the route image button located at the top left of the map screen.



Open Route – This allows you to load an existing saved route that is saved within RunwayHD



Save Current Route – If you've created a route, you can save it by pressing Save Current Route. Create a name for the route then press Save and the route is saved within RunwayHD for future retrieval.



Clear Current Route – Pressing this will delete the current route displayed on the map screen.



Reverse Route – Choose this option if you want to reverse the route you've just travelled.



Route Briefing – Once you've created a route, RunwayHD can generate a Route Briefing document, which is printable and shows all relevant information for your flight. *This feature requires a Wi-Fi connection to the Internet in order to retrieve up to date wind data.*



Enroute NOTAMs (Internet/Wi-Fi/3G

connection only) – When you've created a route, press Enroute NOTAMs to produce a relevant NOTAM briefing. The briefing corridor is approximately 5NM either side of your route. Pressing the arrow shows the exact location of the NOTAM displayed in the briefing.



Email Route (Internet/Wi-Fi/3G connection only) – Email routes as .gpx files to other pilots or to a GPS device that accepts .gpx file format.

Email must be setup on the device for this to work.



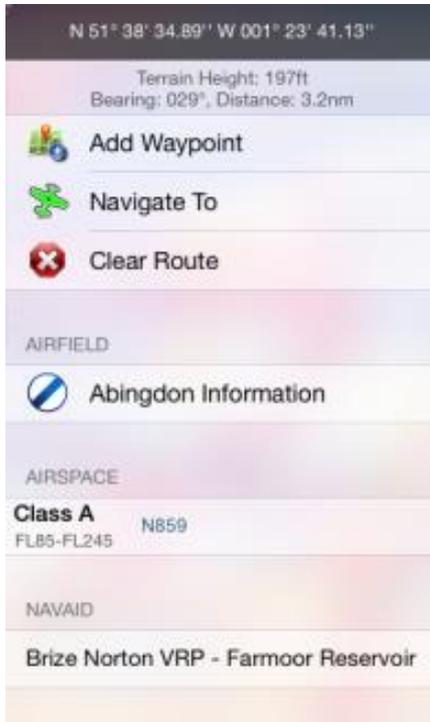
File Flightplan (*requires RocketRoute login*) available from - <http://www.rocketroute.com/>

(Internet/Wi-Fi/3G connection only) – This option will appear if you've registered with RocketRoute and allows you to file a flight- plan via RocketRoute's servers. RocketRoute have a live 24/7 call centre to help with all aspects of National and International flight planning and filing



Logged Flights/Tracks – This option allows users to view all previously logged flights or tracks. Pressing on a logged file will show it overlaid onto the map, whilst swiping a log gives the user the option to delete it.

19. Context Menu



Pressing and holding on the map with either a finger or stylus will produce the context menu. This menu relates to all information at the point pressed, for example if the User presses and holds on an airfield, airfield data for that location, including, if available, TAF and METAR weather information, can be retrieved.

Add Waypoint



Allows the user to make a selected point on the map a waypoint which is then added to the last waypoint created. If no waypoints exist RunwayHD will add the solitary waypoint to the map where it will be considered a start point for a route.

Note that when multiple legs exist on a route, one of the legs will be blue, where the others will be magenta. The blue leg is the active leg and the route information at the bottom of the screen will relate to it.



Navigate To

Allows the user to navigate to the point selected on the map. A magenta course line is created from the user's current position to the selected point.



Clear Route

If a route has been created, user can tap this option to delete it.



Airfield Information

Where available, airfield information can be viewed via the context menu. RunwayHD holds data on over 26,000 airfields across the globe.



Add Points of Interest

The user can add a Point of Interest to the map, for example a turnpoint or helipad.

To add a point of interest, select Add Point of Interest, choose a suitable icon, add a Title (label) for the icon (optional) and a description (optional) then press Save.

Place Document

Users can geo-place a document on the map from RunwayHD's document area at a specific location.



Adding a document is simple; Press and hold on the location where the document is to be place. Select Place Documents. Select a suitable icon to represent the document eg Picture. Select Choose Document. Choose a document from the Documents area or add a new one then press Set and Save.

To view a placed document, press and hold on the map, the icon that represents the document to be viewed. Scroll down to documents and select and open the document.



NOTAMs (Internet/Wi-Fi/3G connection only)

If NOTAM view is turned on, the user can press on a NOTAM'd location and view the data held on that NOTAM by pressing and holding on the map then scrolling down the context menu to NOTAM. Tap the NOTAM to view its contents.

20. Planning with RunwayHD

1. *Create a route*

Please note that a tutorial on creating a route which walks the user through route creating, exists within the help menu (accessible from the documents tab).

1. *On the map*

You can create a route on the map screen by pressing on a destination point with a finger and waiting for the Context Menu to appear.

Options to Add a Waypoint (either as a start position or to an existing route), or to Navigate To which creates a route line from the current GPS position to the point pressed.

Waypoints can be added to the route created by either pressing and holding on a section of a route until a green editing circle appears. The User, whilst maintaining contact with the screen, can move the newly created waypoint to the desired position. When the user's finger is released from the screen the new waypoint anchors at that point.

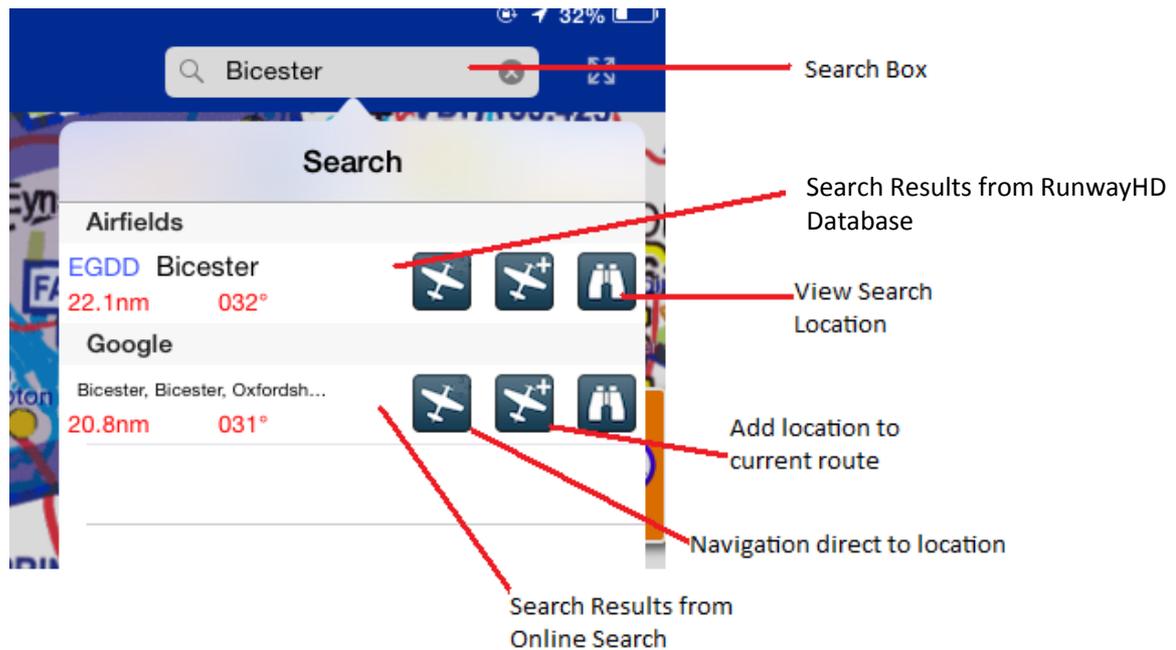
2. *Using Search to locate a potential waypoint*

The User can use the Search box at the top right of the screen to search for a location.

When access to the Internet is available, Power Search is enabled which allows the user to search for locations not held within the App, for example "Big Ben, London". Almost any location in the world can be searched this way.

When operated in offline mode, RunwayHD will search its databases. Typical information held within RunwayHD offline is airfield locations, VOR, NDB, User-created Points of Interest etc.

RunwayHD will display all search results as follows:



The User then has the option to Navigate To, Add as a Waypoint to an existing Route or View Location.

2. **Adding a waypoint**

1. **To an existing route leg**

To add a waypoint to an existing route leg the User should press and hold on the route leg for > 1 second until the green-lined Edit Circle appears.

Using a finger or the stylus, the User can then move the newly created waypoint to a new position. To anchor the waypoint the User should release their finger or raise the stylus from the screen.

3. **Using the Virtual Measuring Tool**

The Virtual Measuring Tool can be used to estimate distances between two points, for example to assess an HLS, fuel burn and average time (User must first set up vehicle fuel burn per hour and average cruise speed in Settings > Aircraft Setup).

To activate the Virtual Measuring Tool place and hold two fingers on the screen. After 1 second the Measuring Tool Display will appear showing a reading between the two points pressed.

If contact with the screen is maintained, the ruler can be expanded, compressed and rotated. When the user removes his or her fingers the Measuring display will remain until the screen is tapped.

Please note that setting the units will allow accurate measuring of both small and large distances.

4. **Viewing Route Information**

Pressing the Route Information button produces the Route Information screen from where users can view a currently created route, save and load existing routes, check enroute NOTAMs etc.

5. **Sharing Routes (via email)**

Routes can be shared with other users by pressing Email Route. This function requires access to the Internet and a valid email account set up within the tablet.

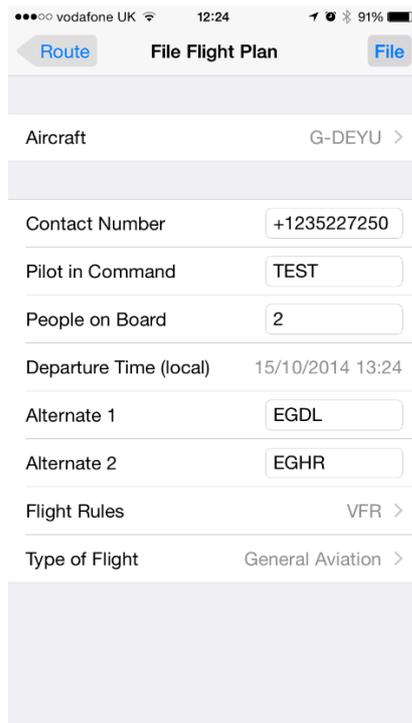
Routes are saved in the .gpx format, an internationally recognised format.

Likewise routes created on other RunwayHD devices can be emailed to the User's device and opened in RunwayHD to display on the map.

6. **Using RocketRoute to Submit a Flightplan**

RocketRoute enables you to use the route planning features in RunwayHD to submit a civil flight plan. You will need to plan your route on the map first and ensure that a RocketRoute login has been set in Settings > System > RocketRoute Account.

Select 'File Flightplan' from the Route menu, the first page will appear. Enter the details required and progress through the pages.



The screenshot shows the 'File Flight Plan' screen in the RunwayHD app. The screen is titled 'File Flight Plan' and has a 'Route' button on the left and a 'File' button on the right. The form contains the following fields:

Aircraft	G-DEYU >
Contact Number	+1235227250
Pilot in Command	TEST
People on Board	2
Departure Time (local)	15/10/2014 13:24
Alternate 1	EGDL
Alternate 2	EGHR
Flight Rules	VFR >
Type of Flight	General Aviation >

7. **Checking NOTAM information**

A narrow route briefing for NOTAMs can be generated once a route has been planned by going to Route File > Enroute NOTAMS.

This feature is available only when a valid connection to the Internet is available.

Displaying NOTAMs on the map is available at any time and will use the data last downloaded.

8. **Checking weather information (TAF/METAR)**

Users can check up to date global TAF and METAR data quickly and easily when the tablet is securely connected to the Internet.

When not connected to a live feed, TAF and METAR data is displayed with an indication of the age of the data in days, hours and minutes.

To view TAF and METAR data for an airfield (where available), press and hold on an airfield to reveal the context menu. Airfield data is clearly displayed as a snapshot view.



For more in depth information, tap the weather display to reveal the full decoded and raw TAF and METAR data.

When you press and hold on an airfield, the app will automatically try to retrieve the latest METAR/TAF information.

9. **Side Profile Display**

The Side Profile display gives a side view of an aircraft's track when flying, or when stationary will show a side profile snapshot of a planned route.

In flight the Side Profile is dynamic and will change as the aircraft changes track.

To toggle Side Profile on or off press the following on-map button

21. Flying with RunwayHD

1. Airspace Warnings

As the user flies a route, they may pass in close proximity to, or enter, airspace. Whenever they are within 5 minutes, of projected entry to a piece of airspace, or inside airspace, RunwayHD will notify that user with an Airspace Warning message. The message contains detailed information about the airspace including class, height and, where available, a contact frequency. The user should look closely at the map display. If airspace is ahead of the aircraft current course, an Orange alert will display on approach, turning Red when the aircraft is within that airspace.

RunwayHD will generate airspace warnings across three dimensions as your aircraft moves across the map if the aircraft's altitude places it within the floor and ceiling limits of the airspace. If the aircraft is 500 ft or more below or above the airspace RunwayHD will not generate a warning however the airspace boundary will still appear on the map.

Airspace Warnings can be acknowledged by tapping the warning box, which is then configured to minimise once tapped.

Airspace Warnings in 3 Dimensions

Warnings for airspace and obstacles are triggered under the following circumstances when flying with PANDA:

- Aircraft is 5 minutes ahead of an obstacle or airspace
- Obstacle or airspace is 820 ft left or right of the aircraft
- Pilot is flying less than 500 ft above or below an obstacle or airspace

PANDA airspace data is updated every 28 days in accordance with the AIRAC cycle.

2. Aircraft Icon

Users can select an aircraft icon and use it to represent their position on the map. Icons can be selected from the Settings menu under Aircraft Setup.

Users can also change the size and colour of the icon to suit their requirements.

1. No GPS Indicator

If no GPS signal is being received by the tablet then RunwayHD will not be able to display a valid position for the User's location. This is indicator by a grey/pink aircraft icon with a red cross over it.

2. No GPS Troubleshooting

Users with No GPS indication may wish to check the following:

1. Check the position of the tablet; the tablet's internal GPS chip needs a clear view of the sky for optimum reception.
2. Check Tablet Settings > Privacy > Location Service (ON) > RunwayHD (ON)
3. Check Tablet Settings > Airplane Mode > Tablet Setting should be OFF
4. Check you have a valid Airbox GPS Subscription.
5. Check your device is configured for GPS reception.

3. 5 minute Vector Line

A 5 minute vector line split into 1 minute segments can be toggled on and off (via the Settings menu > Display > Five Minute Line). The line is designed to give pilots an indication of where their position in 5 minutes.

4. Track Up / North Up

The User can configure the map to display their position either in Track Up mode or North Up mode. Whilst in Track Up mode the User has the ability to rotate the screen with their fingers (the map can be returned to North Up by tapping once on the compass).

5. Track Aircraft

In order for the map to track the user's position, the Track Aircraft button needs to be highlighted blue (see earlier in the manual for further information). Activating Track Aircraft will show the User's fix the aircraft icon on the centre of the map and show the map scrolling beneath as the aircraft moves.

This function is disabled when the user interacts with the map in any way (the Track Aircraft button will turn from blue black/grey) to indicate the Track Aircraft mode is disabled. The User must press the Track aircraft button in order to re-enable the function.

6. Following a Route Leg

Users flying along a route will note that the current leg will appear as a blue line with the remaining legs magenta in colour. Legs will automatically switch as the user moves along the route.

7. Waypoints

Waypoints appear as red circles with white borders. Users can create a waypoint and add it to a route by pressing on the screen and holding for the Context Menu to appear then choosing Add Waypoint. This option either adds a waypoint to an existing route or adds a solitary waypoint to the map if no route has been created.

To delete an existing waypoint users can either tap the waypoint in question; A delete indicator appears which should then be selected. Users can also edit waypoints directly from the Route Summary in the Route Menu.

8. Scratch Pad

The Scratch Pad is designed to give pilots a note making facility. Selecting Scratch Pad opens up the Scratch Pad page where the User can select one of seven colours, an eraser or by using the keyboard function on the Apple Device.

There are four blank pages available for note making.

To exit the Scratch Pad page select one of the other lower tab options (ie Map or Documents)

9. Nearest Airfields

In flight the user can quickly find the nearest airfields to their current position by tapping on the Side Tab on the left hand side of RunwayHD. If you have not got this Tab active then you can toggle this on in Settings > Side Tabs. Nearest airfields are then displayed in order of proximity with information about relative location shown. Each airfield displays distance from current position.

22. Side Tabs

Side Tabs; a new feature to RunwayHD 3.1. This includes Airfield, Weather, NOTAM, Route and Checklist information. This can be toggled on and off to your preference by Settings > Side Tabs and dragging the information you want into Enable or Disable.

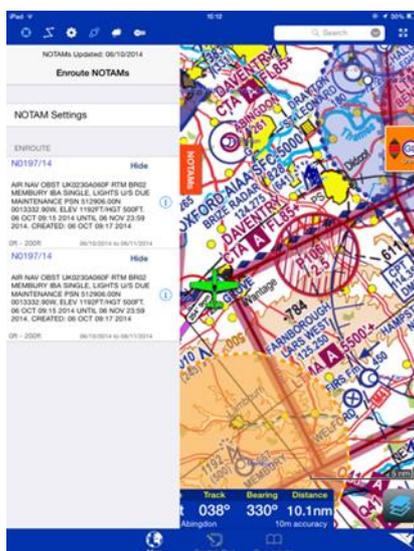
1. Airfield Tab

This will give users a list of the nearby airfields from your current position. You will be able to create a route direct to an airfield, add a waypoint on that airfield or find out general information. You will also be able to report any incorrect Data/Fuel Price information.



2. NOTAMs Tab

If users have a route on the map screen this will provide the user with Enroute NOTAM information. Users can choose to hide the NOTAM from here and also access NOTAM Settings.



3. Weather Tab

If users have a route on the map screen this will provide users with Enroute Weather information.

4. Route Tab

This will give users a breakdown of route information. This area is similar to the option that users have on the top bar of RunwayHD. Users can Save, Load, Open, reverse, Share and Delete routes from here. Route Briefing and Logged Flight information is available as well as access to Rocket Route.



5. Checklist Tab

Allows users to do preflight checks, create your own checklist or use one of the ones that Airbox have provided.



23. Post Flight

Post Flight; RunwayHD can be used to review previous tracks flown by aircraft.

1. Flight Logs

All flight tracks are recorded and can be viewed by accessing the Route Menu and pressing Logged Flights (full instructions can be found earlier in this manual).

Flight logs can be deleted by swiping them left to right and pressing delete.

2. Documents / EFB

Uploading Documents to RunwayHD

Users can add .pdf documents for storage and retrieval within RunwayHD quickly and easily. Documents do need to be in .pdf format to successfully add them to RunwayHD.

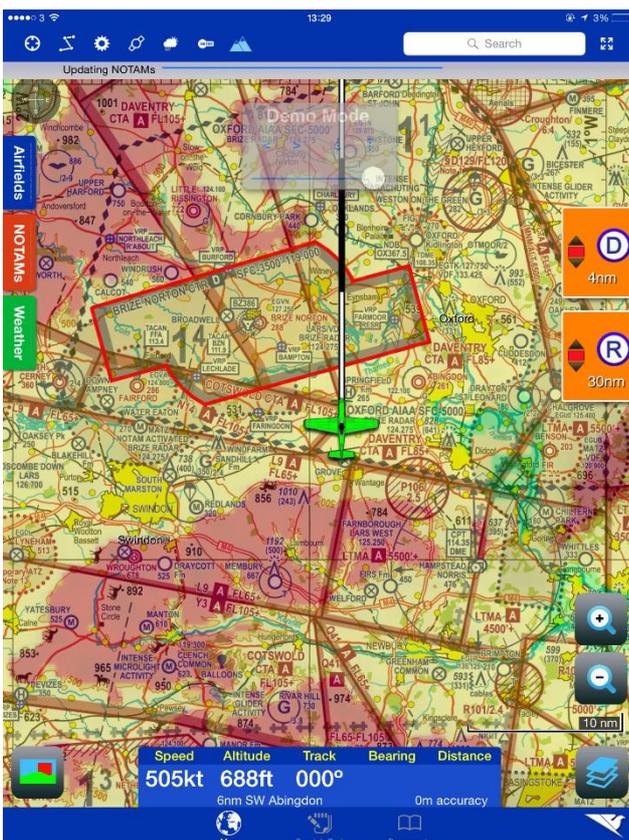
24. Terrain Shading

Terrain Shading; RunwayHD will overlay 3 different shading colours to indicate terrain height during your flight by simply tapping on the Terrain icon in the top bar.

NOTE – this is an advisory feature only and should not be used for terrain de-confliction.

The screen shots below will give an example of the Terrain Shading feature in RunwayHD. The colours show relative height between the aircraft and the section of ground. For example:

- Red is 200ft or less
- Yellow is 200ft – 500ft
- Green is 500ft – 1000ft
- No shading is greater than 1000ft



25. Power FLARM

Please refer to the Power FLARM User manual (Settings → FLARM → FLARM Guidance) which will provide further details.

26. Pilot Aware

Please see the following website for information on Pilot Aware - <http://www.pilotaware.com/>