iFly GPS

by Adventure Pilot

Owner's Manual

Version 7.5.2, Rev 092512

Contents

Overview

Specifications

Dimensions..... 7.25 x 4.5 x 0.75 inches

Weight .....12 ounces

Current..... 600mA @ 12V

Power Input ..... DC 12V~28V

GPS..... SiRF Star – III

Operating Temperature .....14°F to 140°F (-10°C to 60°C)

Storage Temperature .....-4°F to 176°F (-20°C to 80°C)

Specifications are subject to change and improvement without notice. Actual product may vary from the images found in this document.

Features

Interface

- Extensive zoom levels from 2 to 100 NM per inch
- Touch-n-drag scrolling, works even in turbulence
- Single-touch zoom in/out
- Center and auto-track with a single touch
- View Charts button switches between bordering sectionals at a single touch
- Night Mode darkens and inverts colors at night
- Plug-and-fly autopilot capability
- Remote Control included for use in turbulent situations
- Macro-zoom for Vector Mode (1/3 mile)
- Interactive Instruments Panel
- Portrait or Landscape views
- Compatible with attitude heading reference system (AHRS) devices, such as Levil or Clarity

Spatial Awareness

- Track your current position with pre-loaded FAA published sectionals, charts, plates and more
- Critical and important airspaces are highlighted and shaded
- Instantly reference distance and bearing to any point on the chart with a single touch of the screen
- Find Airport button shows a list of the nearest airports with immediate navigational aids such as distance, turn, and ETE
- Distance rings around your current position
- FAA published TFRs on all sectionals and charts
- Vertical guidance to a target airport's pattern altitude using Vertical Speed to Target (VST) instruments
- Live weather data available through ADS-B via third party devices; live updates of NexRad, METARs, TAFs, Winds Aloft, and PIREPs
- Pre-flight weather downloads for METAR, TAFs, and Winds Aloft
- Terrain/obstruction highlights in relative view and profile view
- Active alert messaging for terrain, airspace, and collision

FAA Charts

- Includes all sectionals, low enroute charts, WAC charts, approach and departure plates
- Explore charts with touch-sensitive panning and zooming
- Reference actual FAA airport taxi diagrams; includes alpha-numerics for cutoffs and parallels
- History button toggles between charts, previously viewed airport details, and plates
- Sectionals and plates include all of the "Border" and "Legend" data as shown on FAA charts
- Simple update process at www.iflyGPS.com

Overview

Flight Planning

- Direct-to flight planning
- Easily create multi-leg flight plans directly from the sectional or flight planner
- Rubber-band route line modifications (touch and drag a route line to bend it around an airspace)
- Vertical speed to target for custom waypoints with specific altitudes (a 3-D flight plan)
- Save/load/reverse flight plans
- Flight plan is automatically saved and restored between power cycles
- Search for airports by code, airport name, or city name
- Vertical Flight Planning – plan or view the flight plan from a defined altitude
- Single string waypoint entry (e.g. KDFW KTKI KSTL KOSH)

Data Updates

- Unlimited updates from any internet-connected computer (with a low-cost annual data subscription)
- Update with a USB flash drive or wireless download via iFly Connect. (Note: Wi-Fi updating available on the iFly 720.)
- Prior to your flight, quickly update the latest TFR, Metar, TAFs, Winds Aloft, and a GPS-enabled graphical VFR/IFR reference map with touch weather reports
- Download software updates at www.iflyGPS.com to always have the latest new features

Airport Information

- Geographical data and obstructions
- Public and private airports
- Attendance schedule
- Communication information
- Full runway information, including a thumbnail with quick reference numbers
- Traffic patterns with pattern altitude (if published)
- Georeferenced FAA Airport Diagrams for over 800 complex airports
- Available IFR equipment
- Additional FAA remarks

Compatible Devices

- Digital Auto-Pilots
  - Dynon
  - TruTrak
  - Other Digital NMEA supported models
- AHRS Units
  - Levil
  - Clarity SV
  - And more
- ADS-B Receivers
  - Clarity (models with or without the SV option)
  - LEVIL
  - SkyRadar
  - NavWorx
  - FreeFlight
  - Actively developing more
- External serial GPS receiver input (Note: does not use ADSB GPS)
- Various EFIS and Fuel Flow Computers

Notes

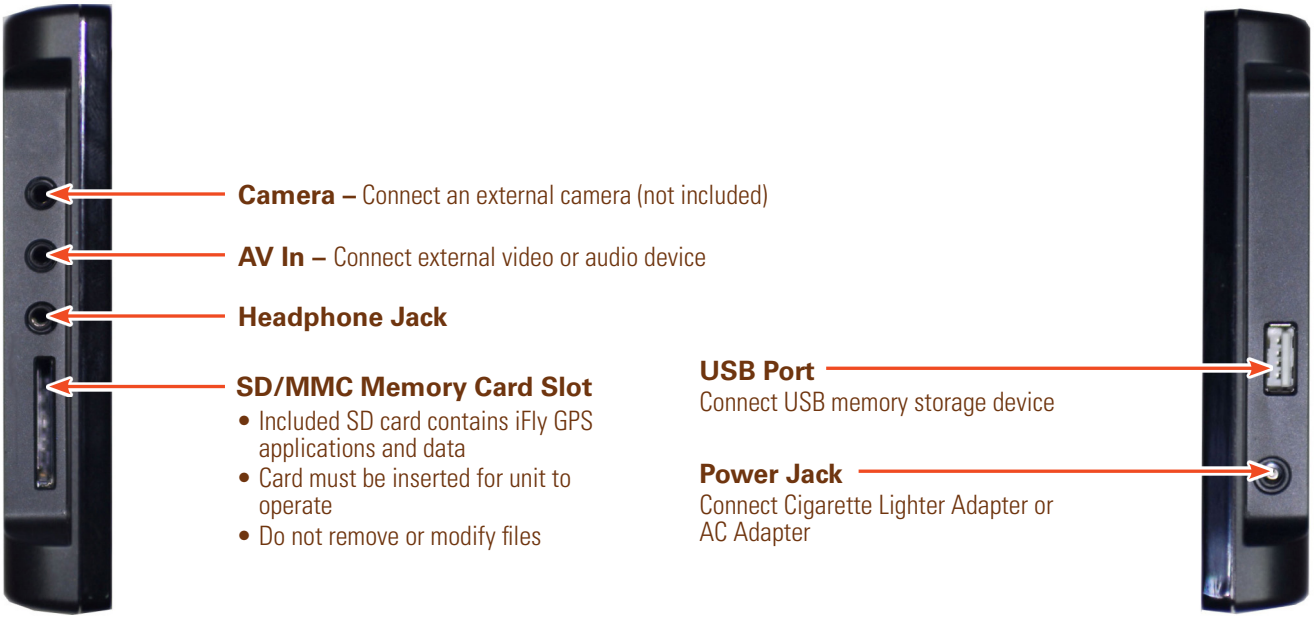
- Avoid using any chemical or abrasive cleaners on the touchscreen and/or plastic casing. Clean the touchscreen with a soft, clean, lint-free cloth. Use water, isopropyl alcohol, or eyeglass cleaner, if needed.
- The iFly GPS does not contain any user-serviceable parts. Repairs should only be made by an authorized service center. Unauthorized repairs or modifications could void both the warranty and the pilot's authority to operate this device under FAA/FCC regulations.
- All visual depictions contained within this document, including screen images, are subject to change and may not reflect the most current iFly GPS receiver. Depictions may differ slightly from the actual unit.
- Use of polarized eye wear may cause the flight displays to appear dim or blank.
- Only use the power adapters provided with the iFly GPS or recommended by Adventure Pilot LLC.
- Do not leave the iFly GPS in extremely high or low temperatures. Do not use in a humid environment or submerge in water.
- Do not place near magnets or large speakers. Do not put gold, metallic objects, or electric wave emitting objects around the iFly GPS.

⚠ Warnings ⚠

- ⚠ Carefully review this Owner's Manual and make sure you thoroughly understand iFly GPS's functionality and operation before attempting to use the unit during actual flight.
- ⚠ Do not install the iFly GPS where it obstructs the pilot's field of view or interferes with operating controls.
- ⚠ The flight indicators shown on the iFly GPS are based on GPS-derived data and may differ from the aircraft's instruments.
- ⚠ The altitude shown on the iFly GPS is geometric height above Mean Sea Level and may differ from the altitude displayed by pressure altimeters. Always use the pressure altitude displayed by your aircraft's altimeter for determining aircraft altitude.
- ⚠ This device is intended to supplement other navigation data sources and should be considered only as an aid to enhance situational awareness. This device is not intended for use as a primary reference for navigation or obstacle/terrain avoidance. It is the pilot's sole responsibility to be aware of aircraft and surrounding conditions. Aircraft position, ground elevation, bearing, speed, and all other elements of the flight which may be displayed on this unit should be verified by the pilot using redundant external sources.
- ⚠ Data utilized in this GPS device comes from government and other 3rd party sources. It is provided without express or implied warranty as to accuracy, completeness, reliability, or suitability. Adventure Pilot, LLC shall not be liable for any errors, inaccuracies, omissions, or other defects in the software or data contained on this device
- ⚠ TFR and other Airspace Data may change. Contact FSS prior to each flight for the latest information.
- ⚠ ADSB/NEXRAD data should be used for long-range planning only. Weather information on this device, regardless of the source, is not appropriate for use in short-range weather avoidance.
- ⚠ The terrain awareness features in this device are an aid for terrain avoidance, but should not be used as a primary reference for terrain avoidance. This device is not certified for use in situations requiring a certified terrain awareness system. Terrain data is from third party sources and may contain inaccuracies.
- ⚠ The United States government operates the Global Positioning System (GPS) and is solely responsible for its accuracy and maintenance. The GPS system is subject to changes which could affect the accuracy and performance of the iFly GPS.
- ⚠ Interference from GPS repeaters operating inside nearby hangars can cause an intermittent loss of altitude and heading displays while the aircraft is on the ground.
- ⚠ Do not use outdated data. Aviation databases, charts, and plates must be updated regularly to ensure that the information is accurate. Pilots using outdated data do so at their own risk.
- ⚠ Do not use the Instruments Panel as a replacement to aircraft gauges. The Instruments Panel is for situational references only, not primary navigation.

Unit Overview

(on back)
External GPS Antenna Connector
Connect an external GPS antenna (optional, not included)



Camera – Connect an external camera (not included)

AV In – Connect external video or audio device

Headphone Jack

SD/MMC Memory Card Slot
- Included SD card contains iFly GPS applications and data
- Card must be inserted for unit to operate
- Do not remove or modify files

USB Port
Connect USB memory storage device

Power Jack
Connect Cigarette Lighter Adapter or AC Adapter

Overview

Mounting on a Windscreen

1. Secure the suction cup to your aircraft's windscreen.
2. Insert the end of the mounting arm into the keyhole slot on the back of the unit.
3. Tighten the knob closest to the keyhole clockwise until secure.
4. Tighten the next knob clockwise to further secure the unit from vibrating loose.
5. Loosen the two arm adjustment knobs, position the unit as desired, and re-tighten the arm adjustment knobs.

Notes:

- *Do not install the iFly GPS where it obstructs your field of view or interferes with operating controls.*
- *After installation, make sure the unit is firmly secured.*

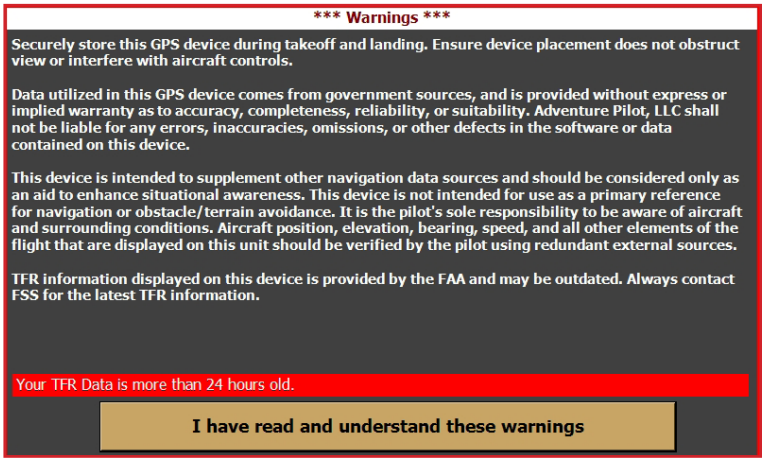
Connecting to Power

For use in your aircraft, connect the barrel end of the included cigarette lighter adapter into the jack of the iFly GPS. Plug the other end into a DC 12–28V cigarette lighter (accessory power port).

For use indoors, connect the barrel end of the included AC adapter into the DC-12V jack of the iFly GPS. Plug the other end into a standard household outlet.

Powering On

1. The unit automatically turns on when connected to power.
2. The Home Screen is displayed during initialization while the iFly GPS collects satellite data and establishes its present location.
3. After initialization, a dialog box appears containing safety warnings, and if applicable, TFR and sectional expiration.
   - Touch "More Information" to view the Sectional Information dialog box.
   - Touch"I have read and understand these warnings" to continue.
4. The sectional map of your location is displayed with an icon representing your aircraft shown in the center of the screen.



Updating your iFly GPS

The iFly GPS software, databases, and charts can be updated through the iFly GPS website if you have a valid update subscription. You can perform the update using either a USB Flash Drive, an SD card, or wirelessly (Wi-Fi) if you have the iFly 720 and a wireless internet connection.

First, log in to the website at www.iFlyGPS.com. If you do not have a login name, create one by clicking the "Register" button at the top of the screen. Once registered, follow the online instructions to link your new iFly GPS with your account.

Update using a USB Flash Drive

1. Insert a USB Flash Drive into your computer.
2. Go to www.iFlyGPS.com.
3. Click "Updates" → "Create Update Package" on the website.
4. Follow instructions on the website to complete the update.

Update using an SD Card

Note: This process only works with a Windows computer running Internet Explorer.

1. With your iFly GPS powered off, eject the SD card (this is the postage-sized memory chip on the left side of the iFly. To eject the SD card, gently push it in and release, it will pop out like toast from a toaster)
2. Insert the SD card into your PC. If your PC does not have an SD card reader, you can buy one from your local electronic shop.
3. Open Internet Explorer and go to www.iFlyGPS.com.

Note: This app is based on a Microsoft technology called ClickOnce so the installer much be launched from Internet Explorer. If you're using Firefox, Chrome, AOL, or any other browser, close that and run Internet Explorer.

4. Click "Updates" → "Download iFly Connect" on the website.
5. Follow instructions on the website to install the application and complete the update.

Update using a wireless internet connection (iFly 720 only)

1. Connect to your wireless network using the Setup Menu on the iFly 720.
   Note: For detailed instructions, read the iFly 720 Extra Features *manual available in the support section of* www.iFlyGPS.com.
2. Once connected, touch **Update** from the **System Menu**. Follow the on-screen instructions.

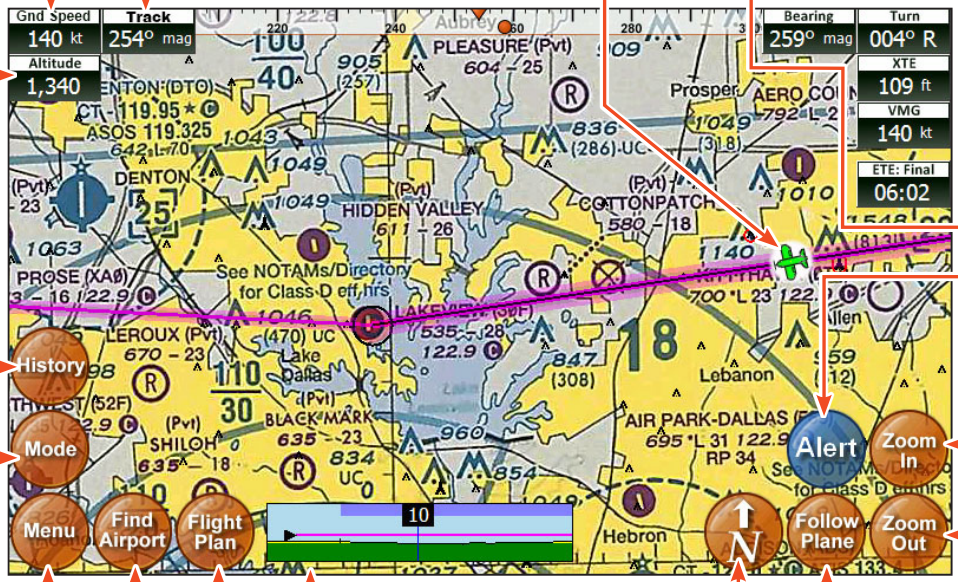
Main Display

Ground Speed
Use Menu → Setup to toggle between Miles, Kilometers, and Nautical Miles

Track
The direction your aircraft is moving relative to true North

Location Icon
Indicates your current location on the sectional

Navigation Instruments
Available when a flight plan is active (see page 15)



Altitude
Your altitude in feet above sea level calculated by GPS
Warning: Always use your aircraft's pressure altimeter to determine your exact altitude

History
Shows a list of recently viewed Airports and Plates

Mode
Select the map mode (see page 34)

Menu
Opens the Main Menu (see page 11)

Find Airport
Shows a list of nearby airports

Flight Plan
Shows the flight planning form (see page 18)

Vertical Profile
A moving profile view of your current position relative to the terrain, obstructions, and airspaces ahead
Touch for a full page profile view with zoom options

Alert
Appears when there is an active alert; touch to view details about the alert (see page 30)

Zoom In
Zoom in to read map details

Zoom Out
Zoom out to view surrounding areas and airspaces

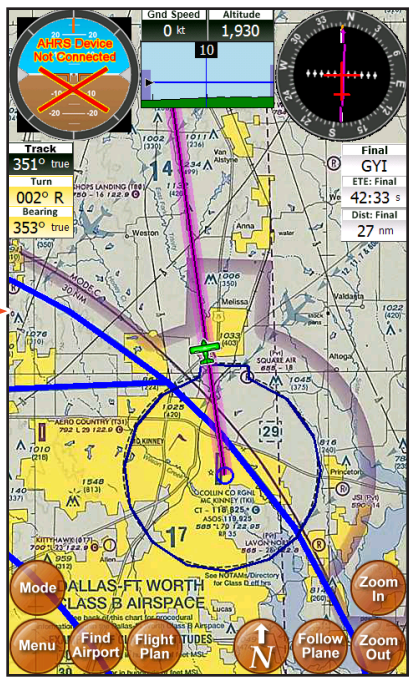
Follow Plane
Reposition your current location in the center of the screen

North-up
Toggles the map display between North-up and Track-up

- In North-up mode, the chart is always oriented so that North is up
- In Track-up mode, the chart is oriented so that the plane is located at the bottom/center of the map facing straight up and the map will rotate as the airplane turns

Portrait Mode
Choose portrait or landscape mode in Screen Settings (see page 23)

- Your iFly will reboot into the alternate mode
- All functions and features are the same in either mode

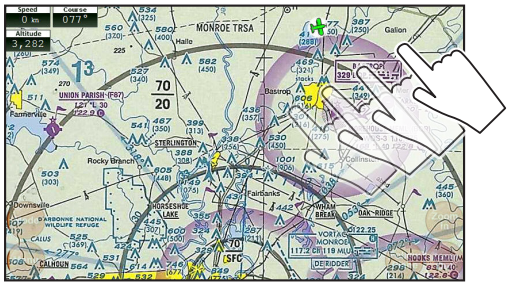


Using the Touch-Screen

Panning

Swipe your finger across the map to move (or "pan") the view to another area. Panning temporarily hides all the instruments and buttons on the map. This can be useful if you need to see text or an image that is behind something else on the map. For example, the Altitude instrument may be covering an airport frequency.

Panning the view

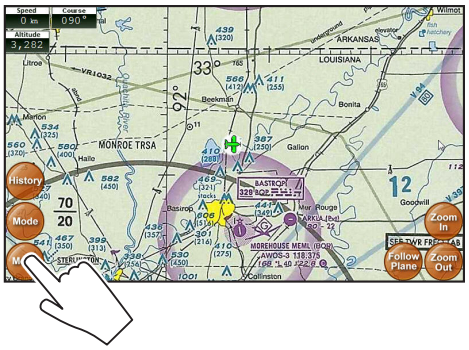


Activating Buttons

Activate buttons by touching with your finger and releasing. This works for buttons on the map (Menu, Zoom In, etc.), and buttons on the forms and dialog boxes.

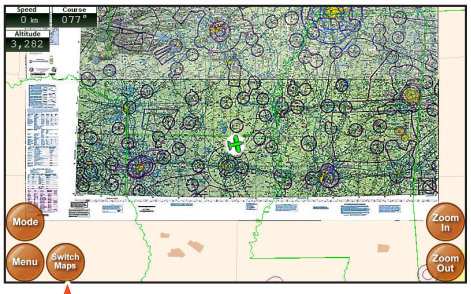
In order to maximize the amount of screen available for displaying the map, the control buttons will fade to be almost invisible after about 30 seconds. However, the buttons are still active in this mode. Touching a faded button works the same as touching a non-faded button.

Note: You can change button fade settings in the **Setup Menu**.



Switching Sectionals

Only one sectional is displayed at a time (however, both sides of the sectional are shown at the same time). To switch to another sectional, touch the area of the screen that contains the sectional you wish to view and it will be brought into the foreground. Sometimes two sectional maps will overlap each other. If you wish to view the sectional that's "underneath" the currently display map, touch the **Switch Maps** button. The Switch Maps button will only be visible if two or more sectionals are within the boundary of the current screen.

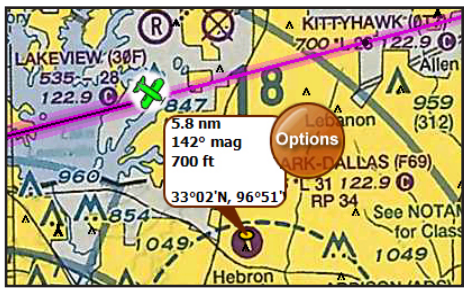


Switch Maps

Markers

Tap the screen with your finger to drop a marker on the map. The marker displays the distance and course from your current location plus the latitude/longitude of the spot you touched. It disappears after about 10 seconds.

You can also place a permanent marker at the location (useful for keeping track of your distance and course from a particular point on the map) or access other options by touching the **Options** button that appears with the marker. See **Possible Actions Menu** on page 11.



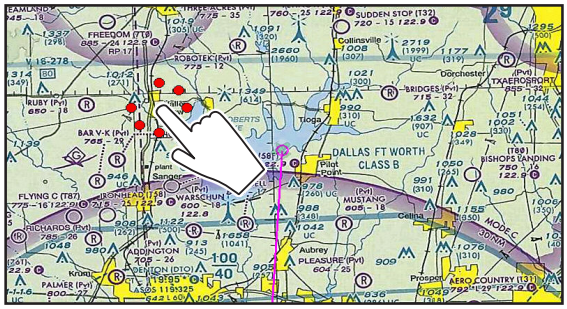
Main Menu

Access by touching **Menu** on the bottom left-hand corner of the map display.

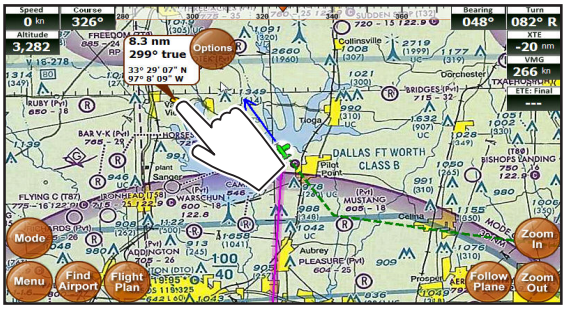
Fly Direct To	Quickly set a route by entering the airport code or name in the Fly Direct To Screen (see page 17).
Find Nearest...	Find the airport or NAVAID closest to your current location (see page 14).
Setup	Customize display settings (see page 23).
Custom Waypoints	Create and manage Custom Waypoints (see page 26).
Check for Update File	Update sectionals and application data (see page 8).
About	Obtain information about GPS, sectionals, version, and support (see page 14).
Exit to Application	Access additional functions such as the calculator, multimedia, memos, connected audio/video devices, or iFly Streets (if available).

Possible Actions Menu

Activate the **Possible Actions** menu by either:1) Holding your finger down over the same spot on the map (without swiping it to another spot), or 2) Touching a spot on the map and then touching the Options button.



or



Fly Direct to Here...	Creates a flight plan directly to the selected location *(see page 17).*
Add Waypoint Here... (Shown if an existing flight plan is active.)	Inserts the selected location as a waypoint in an active flight plan. If the flight plan has multiple legs, the system will insert the waypoint in the most appropriate leg. *Note: If the selected leg is not the desired leg, use Flight Planner to modify the waypoint (see page 18).*

Possible Actions Menu continued

Direct to this Waypoint (Shown if an existing waypoint is touched.)	Targets a waypoint and bypasses other points in the plan. *Note: This can only be used to target "future waypoints." Waypoints that have already been passed cannot be targeted with this option.*
Land Here (Shows if you select an existing waypoint that is not a landing waypoint).	Choose to set the select waypoint as a Landing Airport.
Airport Information	Displays the Airport Information screen (see page 13). If there is more than one airport near the touch point (common when zoomed out), select one from the list of airports near the touch point.
Airspace Information	Displays information on the airspaces located at the touch-point.
Plates & Diagrams	Shows a list of airports near the touch-point that have an associated plate or diagram.
More Options	
Remove this Waypoint (Shown if an existing waypoint is touched.)	Removes the selected waypoint.
Direct to this Waypoint (Shown if an existing waypoint is touched.)	Targets a waypoint and bypasses other points in the plan. *Note: This can only be used to target "future waypoints." Waypoints that have already been passed cannot be targeted with this option.*
Show Extended Runway	A list of runways is shown to help you visualize how to approach an airport. Select one and a triangle is drawn showing the correct approach for a straight-in landing. The point of the triangle represents the start of the runway. *Note: For airports (especially private airports) where runway end-point Lat/Lon is not known, the arrow will be based on the runway's magnetic designator and the center point of the airport.*
Drop Marker Here	Adds a permanent marker to display the distance and course from your current location. This is useful for keeping track of your distance and course from a particular point on the map.
Add Custom Waypoint	Creates a Custom Waypoint (see page 26).
Weather Information	Opens the **Weather Report** screen, which shows weather information in descending order of distance from the touch-point.
Obstruction Information	Opens a screen describing possible obstructions found in the area.

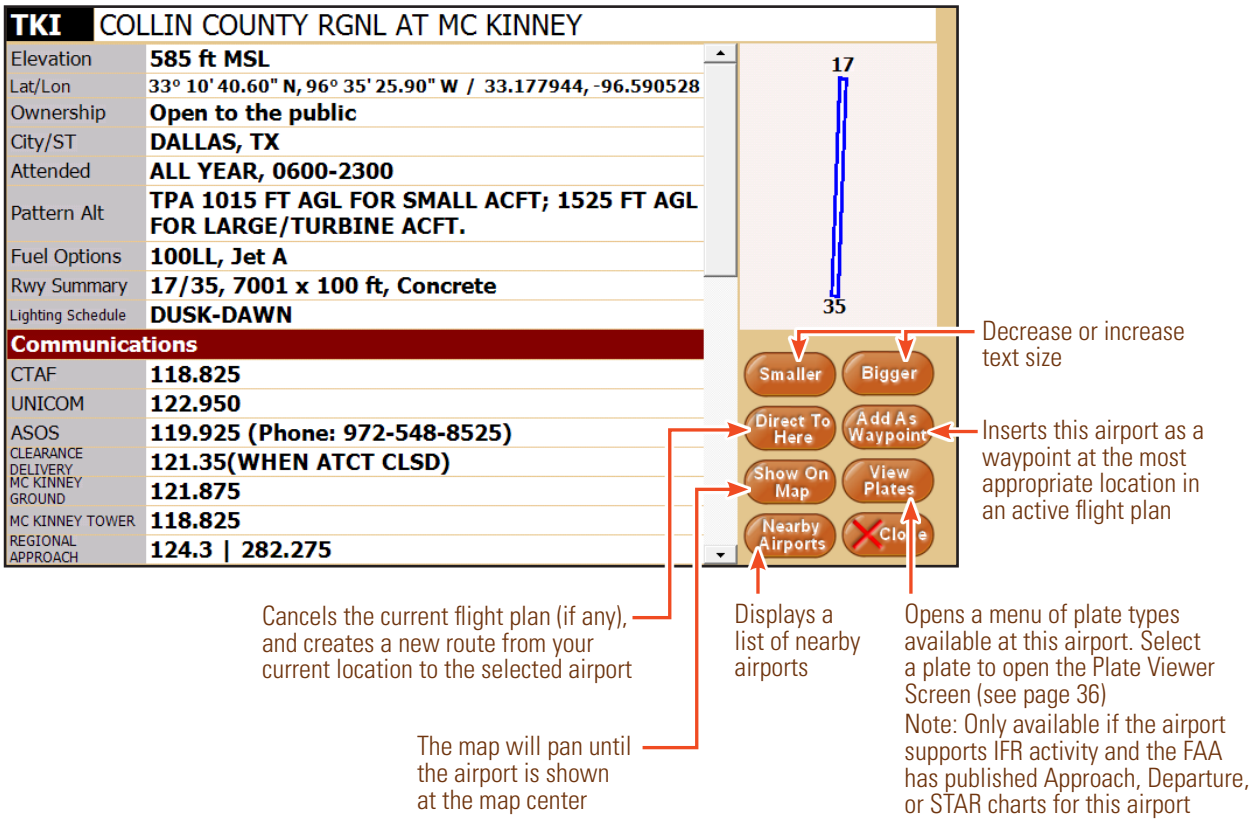
Airport Information Screen

Access by touching the **Find Airport** button and selecting an airport from the list. This screen provides important information about an airport, including:

- Airport code and name
- Latitude/Longitude
- Public/private status
- If a control tower is present, and what hours that tower is open
- All utilized communication frequencies
- A list of runways with detailed information about each runway's orientation, condition, lighting, traffic pattern, IFR equipment, markings, and obstructions
- Any additional FAA published remarks about the airport

Note: Airport NOTAMS (Notices To Airmen) are not available on this screen. Always contact a Flight Service Station (FSS) for the latest NOTAMS before any flight.

Information in the Airport Information form can be scrolled by sweeping your finger across the screen, or by touching and dragging the scroll bar at the right of the form.



Find Nearest... Menu

These searches will display up to 26 airports or NAVAIDs within 50 NM of your current location. Access by touching **Menu** → **Find Nearest...**

Airport	Displays a list of nearby airports. Choose an airport and touch **Select** to view information about the airport, including latitude/longitude, public/private, radio frequencies, runway conditions, and additional information.
Airport w/ Weather	Displays a list of nearby airports that broadcast NOAA weather information. Choose an airport and touch **Select** to find weather frequencies. You will need to tune your radio to the frequency to hear weather information.
NAVAID	Displays a list of nearby Navigational Aids. Choose one and touch **Select** to flag the NAVAID location and return to the map display. The newly flagged NAVAID is shown centered in the display.

About Menu

Access by touching **Menu** → **About**.

GPS Information	Displays the GPS Overview Screen (see below).
Chart Expirations	Displays your current list of sectionals in order of expiration date. You can turn off sectional expiration warnings by unchecking. *Note: The FAA publishes updated sectionals one day prior to the sectional's expiration date. Adventure Pilot makes every effort to get new sectionals ready for download within 24 hours.*
Version and Contact	Shows the current software version of your iFly GPS, as well as Adventure Pilot copyright and contact information.
Connected Devices	Provides details and status information about devices attached to the USB port.

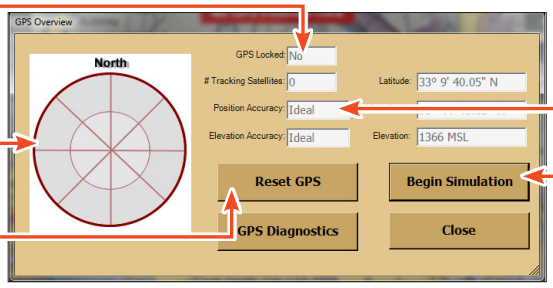
GPS Overview Screen

Access by touching **Menu** → **About** → **GPS Information**.

If GPS locked = yes, the unit knows where you are; If GPS locked = no, the unit is still trying to process your location

Map of the GPS satellites locked by your unit

Reset GPS if you repeatedly get a "Weak GPS Signal" message. It may take up to 30 minutes to re-acquire a signal lock (see page 41)



Position and elevation accuracy depend upon a combination of factors related to satellite position and atmospheric conditions

Simulate flying around using the simulation flight controls

Note: Use this feature only while on the ground. Entering simulation mode while in flight is dangerous.

Flight Planning Options

The iFly GPS includes an intuitive flight planning utility appropriate for VFR flight. A flight plan consists of a departure point, zero or more waypoints, and a destination. These points make up a collection of "routes." For example, a flight plan with two points (a departure and a destination) will have one route. A plan with a departure point, one waypoint, and a destination will have two routes. Routes are displayed on the map as magenta lines. When choosing waypoints and destinations for your flight plan, the iFly GPS will automatically determine the most appropriate target point based on your location, course, and flight track history.

There are several ways to create and modify flight plans:

- Option 1: Create a point-to-point plan by touching the screen (see page 16)
- Option 2: Find an airport by code or keyword (see page 17)
- Option 3: Use the Flight Planner (see page 18)
- Option 4: Rubber-band flight modification (see page 20)
- Option 5: Vertical flight planning (see page 21)

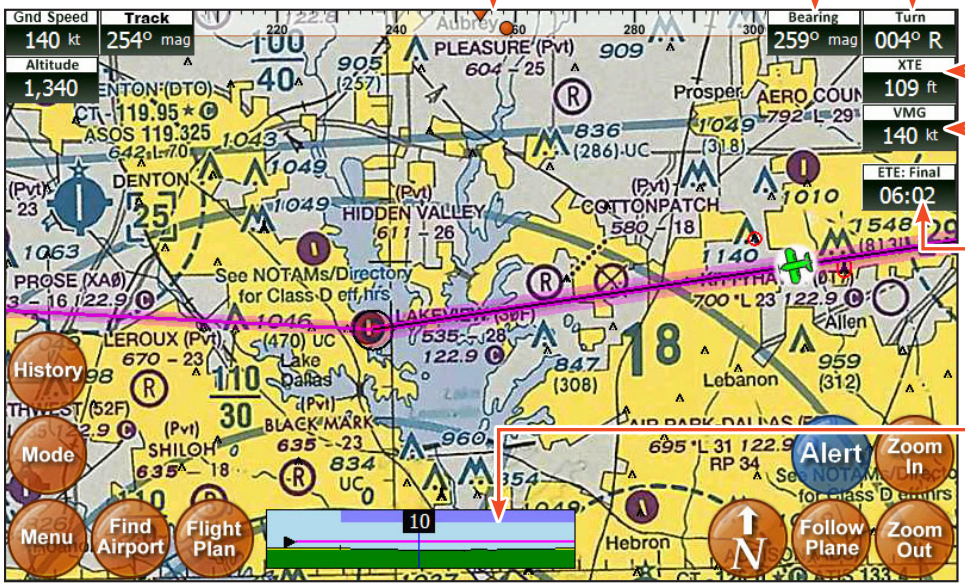
Notice: *Terrain views are for situational awareness reference only and not for primary navigation. This device is not certified for use in situations requiring a certified terrain awareness system. Terrain data is from third party sources and may contain inaccuracies.*

The following navigation instruments are available when a flight plan is active:

Course Tape
The triangle indicates your current course.
The ball indicates the most direct bearing to your next waypoint.
To follow the most direct route to your next waypoint, keep the ball centered under the triangle.

Bearing
The most direct route to your destination

Turn
The number of degrees you need to turn to stay on route



Cross Track Error
Negative = distance left-of-route
Positive = distance right-of-route

Velocity Made Good
The absolute speed you are approaching your destination

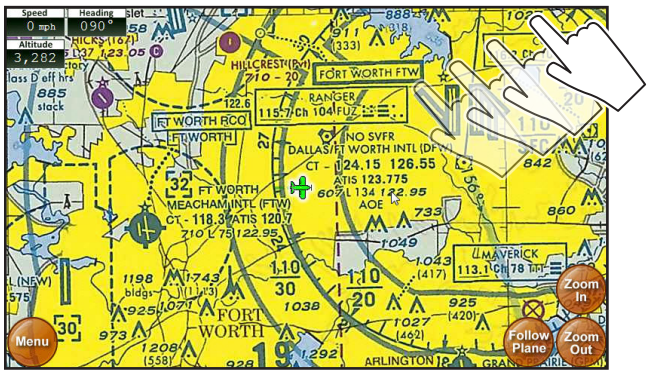
ETE: Final
Estimated time left until reaching final destination

Vertical Profile
A moving profile view of your current position relative to the terrain, obstructions, and airspaces ahead; touch for a full page profile view with zoom options

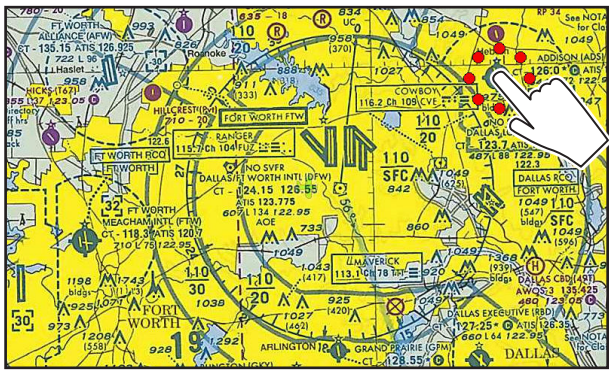
Touch any of the instruments to toggle between Basic and Extended modes. If Custom Instrument modes have been created, touching any instrument will also toggle through those modes.

Option 1: Create a point-to-point plan by touching the screen

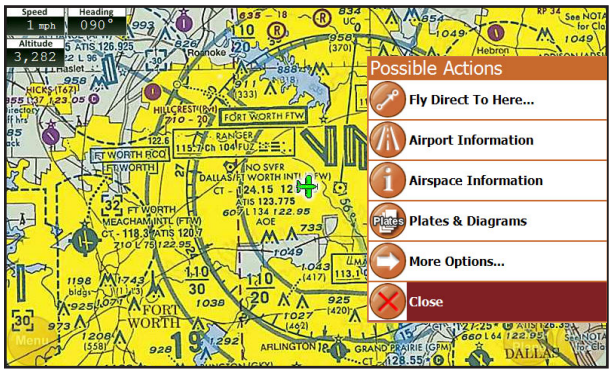
1. Pan the map until you find your desired airport or other flying destination.



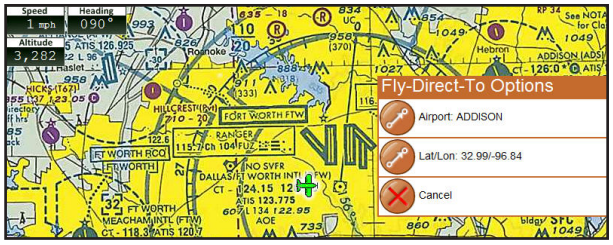
2. Touch the destination and hold for 2 seconds to display the Possible Actions menu.



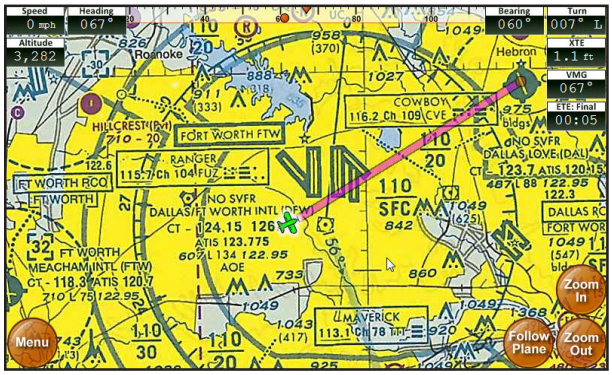
3. Select the "Fly Direct to Here" option.



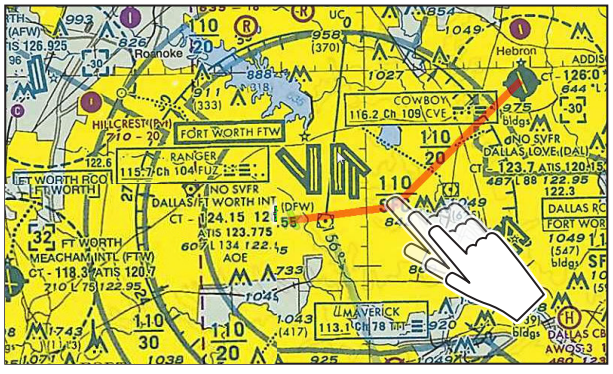
4. If there are any airports or NAVAIDS near your selected destination, you will be given a list to select from. (Or you can select the latitude/ longitude if your destination is not associated with a particular airport or NAVAID).



5. If you have a current flight plan, it will be cancelled and a new plan will be created with one route directly from your current location to your selected point.



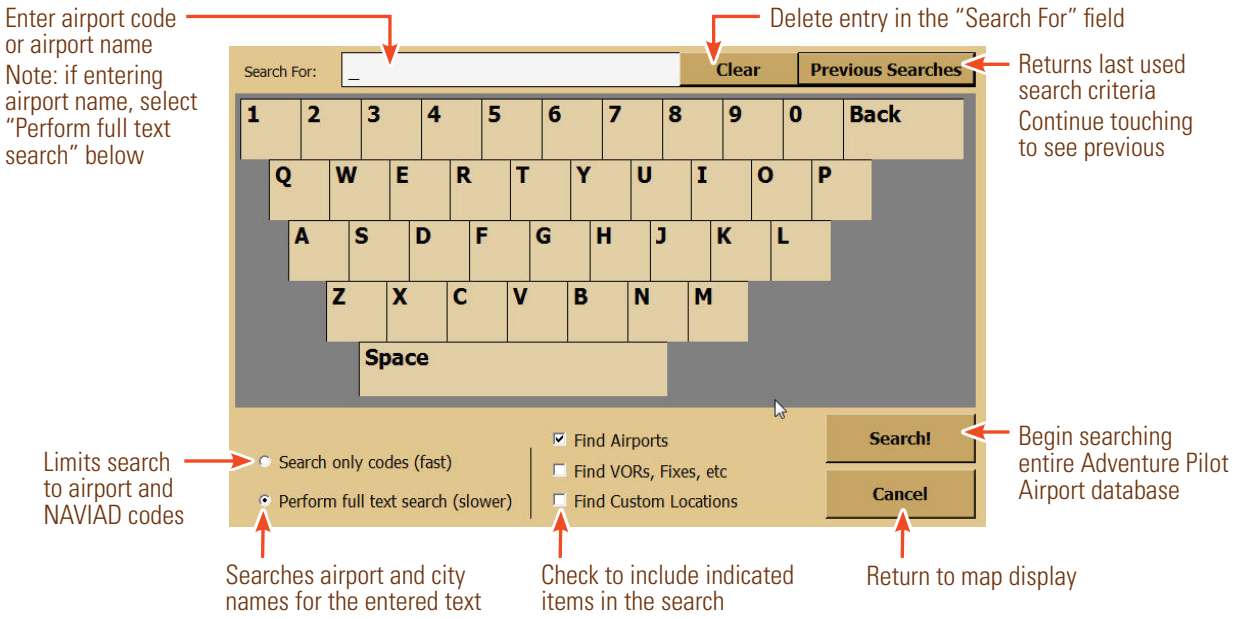
6. If needed, you can modify the flight plan by "bending" route line. Touch the line at any point and drag it to a new position (see page 20).



Option 2: Find an airport by code or keyword

1. Touch **Menu** → **Fly Direct To.**
2. The Fly Direct To Screen will appear. Use this screen to find airports or NAVAIDS.

Fly Direct To Screen

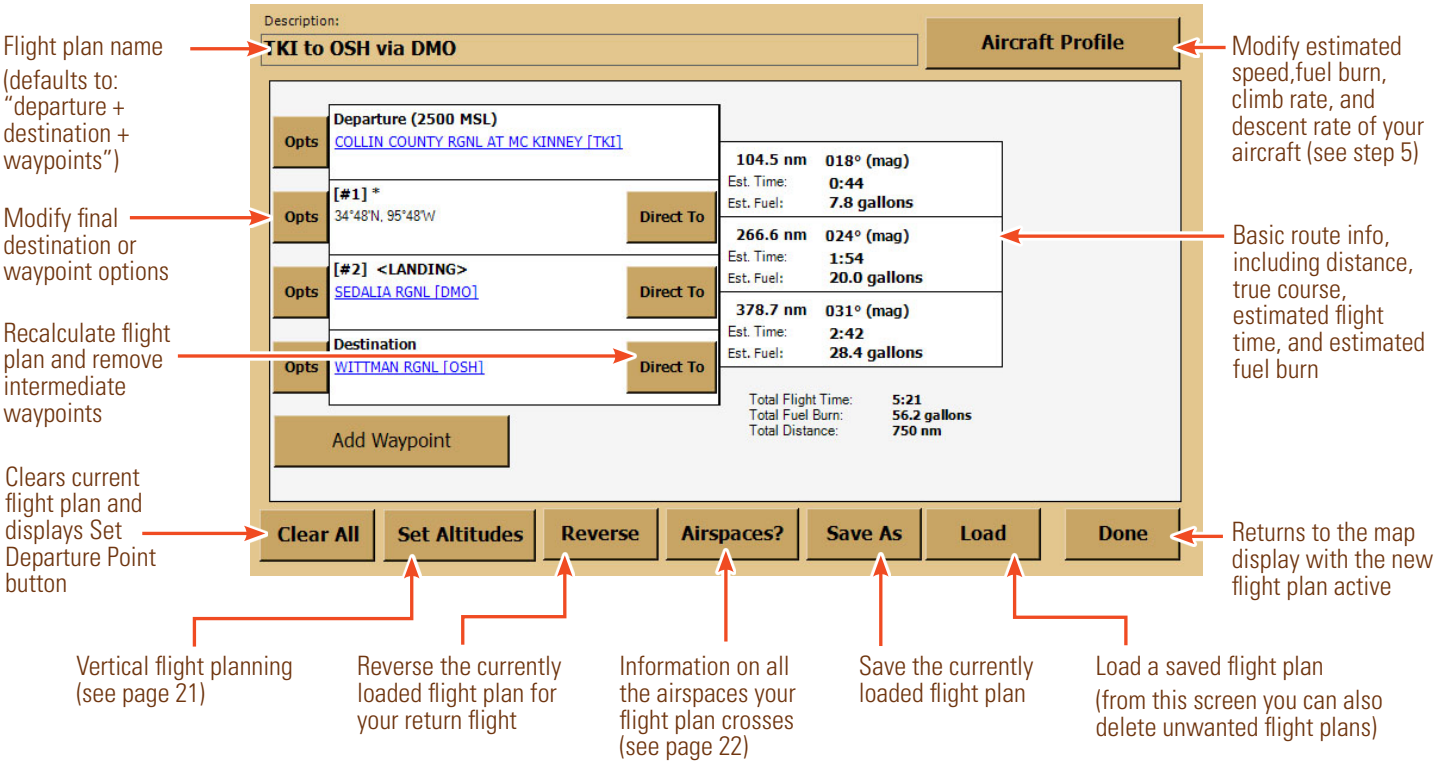


3. If flying to an airport, enter the Airport Code and touch **Search.**
   - If the code is unknown, enter a portion of the airport's name or city, select the **Perform full text search** option, and then touch **Search.**
   - If more than one object is found, a list of objects matching your search criteria will appear. The list is sorted by distance from your current location.
   - If you have a current flight plan, it will be cancelled and a new plan will be created with one route directly from your current location to your selected point.
   - Supports UATS-style keyboard entry of flight plan waypoints. Enter a route list of identifier codes separated by spaces; the K is required for airports, otherwise you may add a Navaid into the plan by accident (e.g. KDFW KTKI KSTL KOSH)

Option 3: Use the Flight Planner

The Flight Planner can be used to create a flight plan from scratch, tweak a current flight plan, change the order of waypoints, cancel a flight plan, save plans, or load previously saved plans. It can also be used to review flight time and fuel consumption estimates.

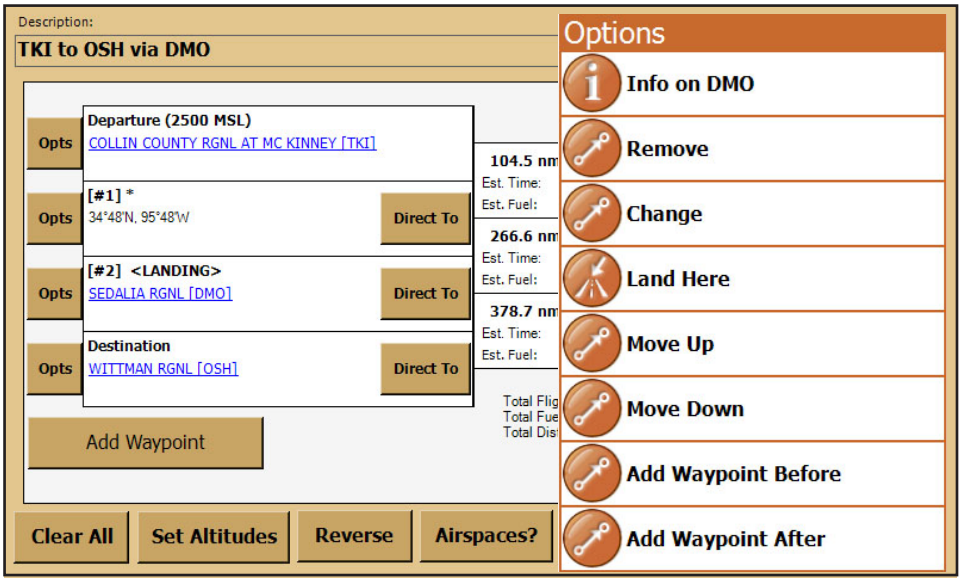
1. Access the Flight Plan Screen by touching the **Flight Plan** button. If a flight plan is currently active, the points and route information will be shown.



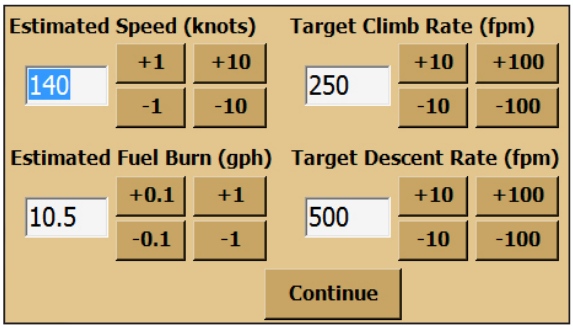
2. If there is not an active flight plan, an initial destination will be selected based on your current location. However, your "current" location may not actually be where you want to initiate your flight plan. For example, if you are preparing a plan at home before heading to the airport. If this is the case, touch **Clear All** to start with a blank plan, then touch **Set Departure Point.**

3. After a departure point is set, begin adding additional points to your plan. Touch **Add Waypoint** and complete the Fly Direct To Screen as described in "Option #2: Find an airport by code or keyword" on page 17.

4. Next to each point in the flight plan is an **Opts** (options) button. Touch **Opts** to open a menu if you want to see available waypoint information, remove, change, move, or insert additional waypoints.



5. Touch **Aircraft Profile** at the top/right of the Flight Plan Screen to modify the estimated speed,fuel burn, climb rate, and descent rate of your aircraft.



Note: These values are used to estimate the flight time and fuel burn between routes. Setting these values to appropriate and conservative numbers for your aircraft is critical for obtaining the most accurate estimates.

Option 4: Rubber-band route modification

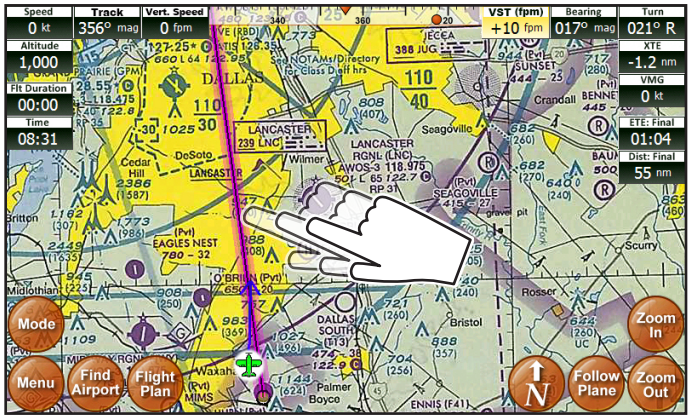
After creating your initial flight plan, it may be tweaked by touching and dragging a route line or waypoint.

You may need to tweak a flight plan if you find that it travels through areas or airspaces that should be avoided (such as a TFR, restricted airspaces, undesired controlled airspaces, etc.). Or you may wish to follow a specific VFR corridor, follow an area of low terrain, or for any other reason you wish to "customize" your route.

1. Touch a route line for about ½ second to "grab" the route. Then slowly drag the route to your desired position. This will insert a new waypoint in your plan.

   Note: Don't wait too long to begin dragging or the Possible Actions menu will appear.

2. To drag an existing waypoint, touch the waypoint for about ½ second to "grab" it, then slowly drag the waypoint to a new position.

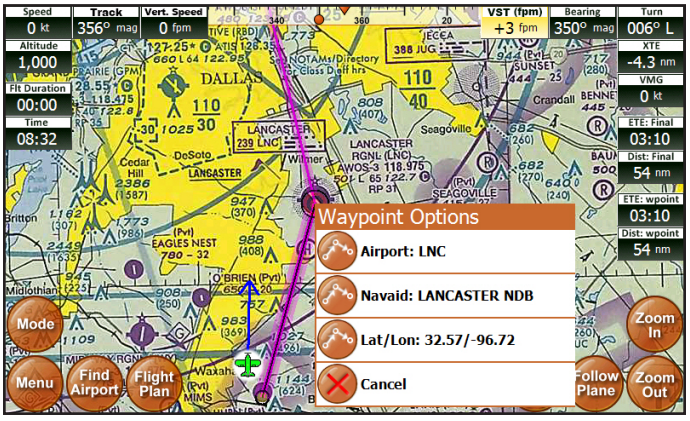


3. After you release the route line, a list of Waypoint Options will appear showing the airports or NAVAIDs in the area. Choose one to insert it into your flight plan or choose Lat/Lon to save your new route.

4. This process can be repeated to insert or move waypoints as desired.

   Notes:

   - *After a route line has been moved, it is recommended you scan the entire route again to ensure it has not been moved over undesirable airspaces.*
   - *The ability to* touch-and-drag route lines can be disabled in the **Setup Menu**.

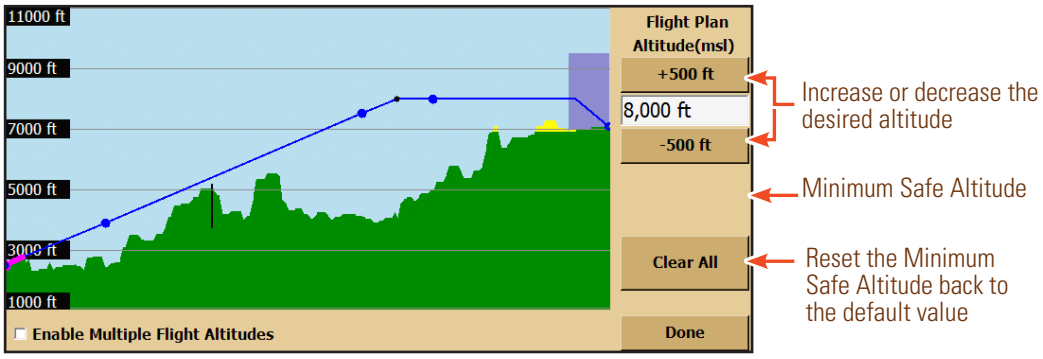


Option 5: Vertical flight planning

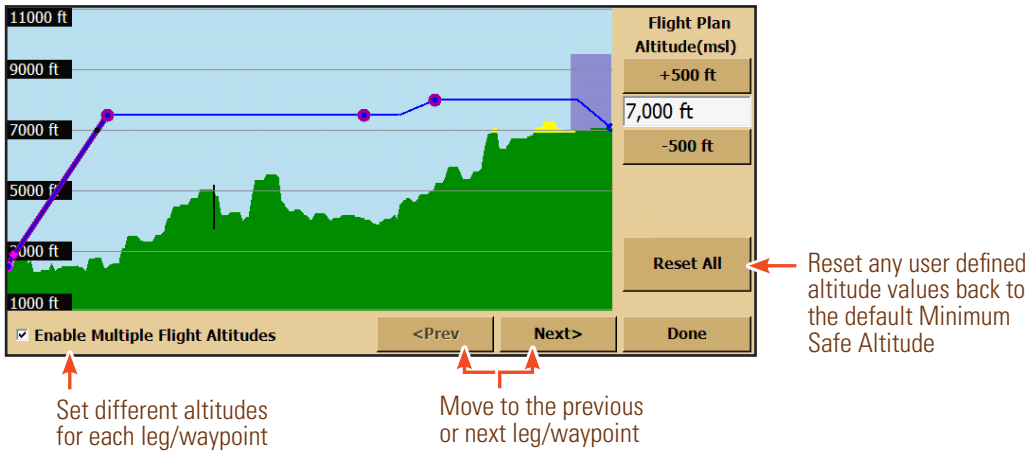
Vertical flight planning allows you to view or modify your flight plan in relation to terrain highlights based on a defined altitude. You can view the Flight Plan in relation to the terrain from a relative (bird's-eye) view or a vertical profile view. You can also modify the desired cruise altitude or define individual altitudes for each leg.

After you have created a flight plan, access the Vertical Flight Planner by touching the **Flight Plan** button then **Set Altitudes.** Use the +500 / -500 Altitude buttons to change the altitude perspective. Touch **Vertical Profile** to view a profile of the flight plan in relation to the terrain below the set course.

> ⚠ ***Warning:*** Terrain views are for situational awareness reference only and not for primary navigation.
> **Keep you eyes outside the plane!**



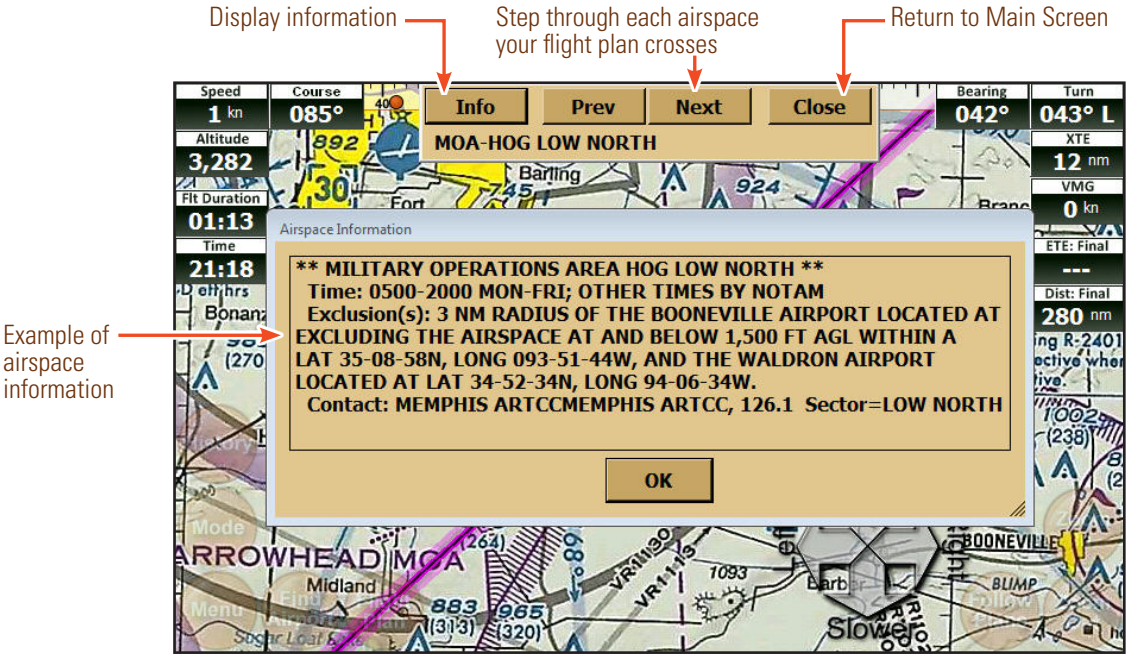
If you need to set different altitudes for the different legs or waypoints of your flight plan, check **Enable Multiple Flight Altitudes**.



Checking Your Flight Plan's Airspaces

Use the Airspace Information form to walk through all the airspaces that your flight plan crosses, one by one, in order to get detailed information on the airspaces and to adjust your flight plan if necessary. Access by touching the **Airspaces?** button in the **Flight Planner**.

Note: If your flight plan is significantly modified, you should close the Airspace Info form and go through the **Airspaces?** *process again.*



Settings

Units of Measure

Access by touching **Menu** → **Setup** → **Units of Measure**.

Speed/Distance Units	Switch between nautical miles, statute miles, and kilometers.
Compass	Toggles the system between showing degrees as True or Magnetic North.

Map Settings

Access by touching **Menu** → **Setup** → **Map Settings**.

Distance Circles	Check **Shown** to draw distance circles around the plane icon on the map. The distance varies from 2 NM to 2500 NM based on your zoom level. Check **Shown and Annotated** to show the distances on the map.
Course Line	Check **Shown** to have a blue arrow extend in front of the plane indicating the current course.
Flight Trails	Check **Shown** to draw a trail showing where you've flown in the current flight plan.
Past Flights	The iFly GPS remembers all past flights and lists them with the date and time stamp of departure. Select one and touch **Load** to draw the flight trail on the map. *Note: The unit doesn't center on the flight trail; you may have to zoom out and search through the maps to find it.*
Intended Track Line	Check **Shown** to have a blue line drawn from your current location to your targeted waypoint.
Auto Track Plane	Causes the plane to automatically re-center. ■ **Enabled:** Auto track feature on at all times ■ **Enabled when moving:** Auto track is off while the iFly GPS is not moving (such as while you're planning a flight), but is on if the unit is in motion (while flying) ■ **Auto-resume**: Set for 10 seconds through 10 minutes
Touch and Drag Route Lines	Drag route lines.
Aircraft Icon	Choose Airplane, Blue Arrow, Green Arrow, or Helicopter.

Screen Settings

Access by touching **Menu** → **Setup** → **Screen Settings**.

Calibration	Opens a device setup menu where you can perform a screen calibration process (touch the ⊡ symbol). Using a stylus, toothpick, or plastic pointed object, touch and hold the mark on the screen until it move to its next point.
Screen Brightness	Toggle screen brightness up or down.
Button Fading	Control how much the buttons fade when not in use.
Screen Orientation	Toggle orientation between landscape and portrait mode *Note. All functions and features are the same in either mode, except instrument groups are dependent on the orientation.*

Instrument Settings

Selecting Instruments Mode

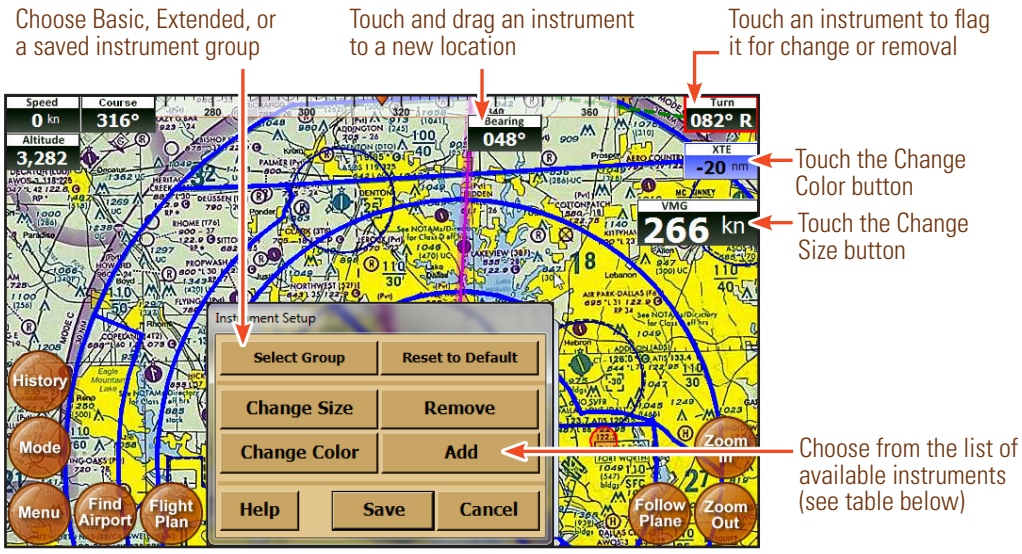
Activate Basic, Extended, or a Custom instrument group (see below). Access by touching **Menu → Setup → Select Instruments Mode.**

Customizing Instruments

Allows you to customize instrument appearance: hide, show, or change location, size, and color. Access by touching **Menu → Setup → Customize Instruments.**

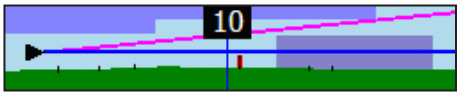
After you add and modify the instruments to your desired configuration, touch **Save**; then choose either **Save as Current** to override current settings or **Save as New** to save as a new an Instrument Stack name.

Note: Instrument settings are unique between Landscape and Portrait Mode.



The following instruments are available.

Full Instrument Name	Abbreviated Name	Description
Altitude	Altitude	GPS altitude measures the current distance from your position to estimated Sea Level. (This is not the same at Pressure Altitude and will likely vary from your pressure adjusted Altimeter.)
Bearing	Bearing	The compass direction needed to fly in order to reach the next target waypoint.
Course Tape	Course Tape	Active compass tape and ball. The needle indicates the current track and the ball represents the target waypoint.
Cross-Track Error	XTE	The distance the aircraft is off course to one side of the course line. (A negative XTE value is left of centerline and positive XTE value is right of centerline.)
Current Time	Time	Local Time for the set Time Zone. GPS Signal required. (Note: Time Zone changes not corrected at this time.)

Full Instrument Name	Abbreviated Name	Description
Distance to Final	Dist: Final	Distance from the current position to the Final Destination. (Can be in Knots, Miles, Kilometers.)
Distance to Next Waypoint	Dist: wpoint	Distance from current position to the Next Waypoint. (Can be in Knots, Miles, Kilometers,)
Estimated Time Enroute to Final	ETE: Final	The estimated time remaining to the final destination at your current speed or VMG.
Estimated Time Enroute to Next Waypoint	ETE: wpoint	The estimated time remaining to the Next Waypoint at your current speed or VMG.
Estimated Time of-Arrival to Final	ETA: Final	The estimated time of arrival at the Final Destination based on the current Speed or VMG.
Estimated Time of Arrival to Next Waypoint	ETA: wpoint	The estimated time of arrival at the Next Waypoint based on the current Speed or VMG.
Final Destination Name	Final	The Name, Identifier or Lat/Long of the Final Destination.
Flight Duration	Flt Duration	Elapsed Flight Time calculated once aircraft exceeds 20 knots.
Speed	Gnd Speed	The current speed of the aircraft relative to the ground in KTS, MPH or KPH. (Note: This is not Airspeed.)
Target Waypoint Name	Waypoint	The Name, Identifier or Lat/Long of the next target waypoint.
Track	Track	Indicates the current path or track over the surface of the Earth directly below an aircraft. True or Magnetic. (This is not heading; and will likely vary the aircraft's physical heading on account of winds.)
Turn	Turn	The degrees of turn (left or right) needed to fly to the next target waypoint.
Velocity Made Good	VMG	The current velocity in the direction of the next waypoint. KTS, MPH or KPH.
Vertical Profile	Vertical Profile	A moving profile view of your current position relative to the terrain, obstructions, and airspaces ahead. Touch this instrument to toggle between full page and small views. 
Vertical Speed	Vert. Speed	Calculated rate of climb or descent in feet per minute (fpm).
Vertical Speed To Target (VST)	VST (fpm)	Target rate of climb or descent needed to arrive at Pattern Altitude for the next airport in the flight plan, or the final destination. Instrument appears when the VST reaches a defined rate of descent.
Artificial Horizon	AH	Used when connected to a remote attitude heading reference system (AHRS) device. It shows "AHRS Not Connected" if an AHRS is not connected.
Horizontal Situation Indicator	HSI	Combines several data elements into one: course over the ground, cross-track error, planned bearing, and actual bearing (see page 37).

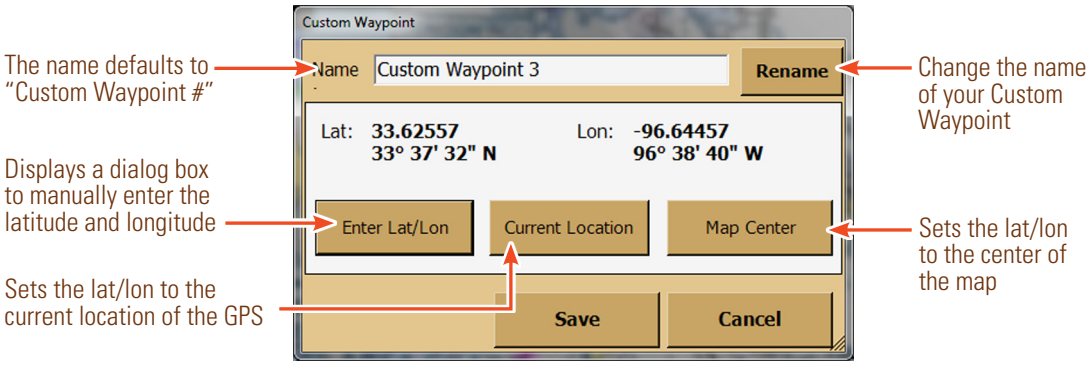
Custom Waypoints

Access by touching **Menu** → **Custom Waypoints.**

	**Create New Custom Waypoint**	Opens the Custom Waypoints Form (see below).
	**Edit Custom Waypoint**	Displays a list of your saved Custom Waypoints so you can edit or delete them.
	**Show on Map? (Yes/No)**	Allows you to choose whether to show or hide your Custom Waypoints on the map.

Custom Waypoints Form

This form allows you to define the name and location for your Custom Waypoints. Access by touching **Menu** → **Custom Waypoints** → **Create New Custom Waypoint.**



Alert Types

The IFly GPS offers several types of audio and visual alerts, which can be customized in a variety of ways. Each of these alert types are explained in more detail in the sections that follow.

- **Collision Alerts** refer to terrain, ground obstacles, and traffic (see page 27).
  - **Terrain Alerts** provide collision alert warnings when flying in mountainous areas.
  - **Obstruction Alerts** provide collision alert warnings when flying in other obstruction-rich areas.
  - **Traffic Alerts** provide collision alert warnings when another aircraft is within a set distance from your current position (available if your iFly GPS is connected to a traffic-enabled ADS-B device).
- **Airspace Alerts** warn you before you fly into an airspace (Restricted, Class B, TFR, etc.) (see page 30).
- **Terrain Highlights** are overlaid on all GPS modes, Charts, Plates, Diagrams, etc (see page 31).

  Note: When not in an Airport Zone, terrain is highlighted red or yellow based on your current clearance and your selected Collision Alert Threshold.
- **Vertical Speed to Target** is an instrument that pops to show the ascent / descent rate in feet per minute required to reach the target altitude of the waypoints in your flight plan (see page 31).
- **AHRS Alerts** allows you to configure pitch/roll alert thresholds (requires connected AHRS device) (see page 32).

Collision Alerts

Setting Collision Alert Thresholds

The iFly GPS maximizes the relevant notices and alerts, while minimizing "nuisance" alerts that the pilot doesn't care about. The iFly accomplishes this by analyzing ground track and vertical speed to project upcoming clearance levels.

Collision alerts are reduced when approaching or departing an airport, and they are totally disabled when the aircraft is within an Airport Zone (a virtual area around all airports in the iFly database). The width and height of the Airport Zone depends on the size of the airport, and also changes if the airport is in your flight plan. When entering an Airport Zone, an alert tone will sound informing you that airspace alerts and terrain highlights are being disabled.

You can adjust the Collision Alert Threshold to so that Terrain Alerts, Obstruction Alerts, and Traffic Alerts (if connected) pop less frequently or more frequently. Access by touching **Menu → Setup → Alerts and Warnings → Collision Alerts.**

Note: Collision Alert Threshold settings do not affect Airspace Alerts, which are controlled with the Airspace Alert Settings (see page 30).

⚠ ***Warning:*** Terrain, Obstruction, and Traffic Alerts are for ***situational awareness reference only*** and not for primary navigation. This device is not certified for use in situations requiring a certified terrain awareness system. Terrain data is from third party sources and may contain inaccuracies.

Keep you eyes outside the plane!

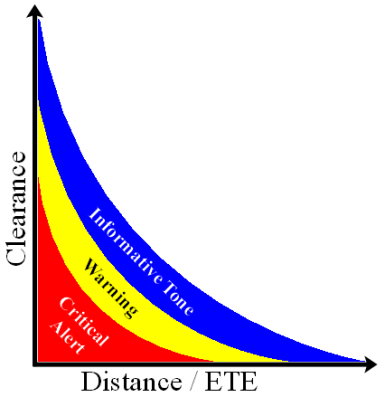
Alerts

Collision Alert Thresholds follow these approximate tolerance levels for various settings and flight phases.

	Yellow Terrain Highlights	Red Terrain Highlights	During Approach / Departure			During Normal Cruise		
			Obstruction Alerts	Terrain Alerts	Traffic Alerts	Obstruction Alerts	Terrain Alerts	Traffic Alerts
Strict	1000 ft clearance or less	200 ft clearance or less	Obstruction is < 120 sec or 2 nm; < 250 ft clearance	Informative alert begins at < 200 sec / 700 ft	Traffic is < 60 sec or 2 nm; +/- 3000 ft clearance	Obstruction is < 240 sec or 5 nm; < 400 ft clearance	Informative alert begins at < 300 sec / 1000 ft	Traffic is < 120 sec or 5 nm; +/- 3000 ft clearance
Moderate	800 ft clearance or less	200 ft clearance or less	Obstruction is < 90 sec or 1.5 nm; < 250 ft clearance	Informative alert begins at < 80 sec / 350 ft	Traffic is < 60 sec or 1 nm; +/- 3000 ft clearance	Obstruction is < 180 sec or 3 nm; < 400 ft clearance	Informative alert begins at < 180 sec / 800 ft	Traffic is < 120 sec or 3 nm; +/- 3000 ft clearance
Relaxed	500 ft clearance or less	200 ft clearance or less	Obstruction is < 60 sec or 1 nm; 250 ft clearance	Informative alert begins at < 80 sec / 200 ft	Traffic is < 60 sec or 75 nm; +/- 3000 ft clearance	Obstruction is <120 sec or 2 nm; 200 ft clearance	Informative alert begins at < 120 sec / 400 ft	Traffic is < 120 sec or 2 nm; +/- 3000 ft clearance

More about Terrain Alerts

The iFly GPS's terrain alerting logic will pop a terrain alert when your projected altitude falls below a certain threshold, as represented in the graph to the right. A Critical Alert occurs when the iFly GPS detects a low clearance a short distance away. On the other side of the spectrum, an Informative alert will sound when the iFly GPS detects a high clearance that will occur in a short time, or a low clearance that is still some distance away.



Note: For terrain alerts "Distance" is always measured in terms of estimated time enroute. For example, if the alert threshold is 240 seconds and your speed is 120 knots per hour, the alert will sound when you are within 2 nm of the terrain.

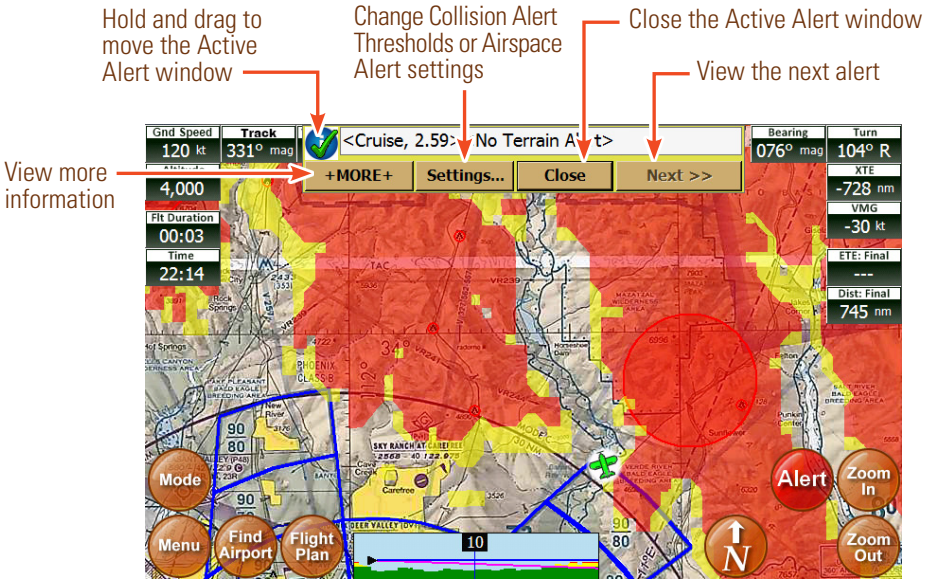
In low altitude situations, the iFly GPS will also append other audible messages based on your flight phase and rate of climb.

- **Sink Rate** – Excessive rate of descent detected. Can occur during any flight phase.
- **Pull-up** – Descending into terrain, immediate halt of descent necessary. Can occur during any flight phase.
- **Don't Sink** – Descent detected during takeoff or departure flight phase (pilot should be climbing at all times during this phase)
- **Too Low** – During landing indicates below a safe approach altitude, during takeoff indicates pilot is not climbing fast enough.

Caution: *Terrain Highlighting Mode Settings are dimmed when there are no active alerts, and become bold when alerts are active.*

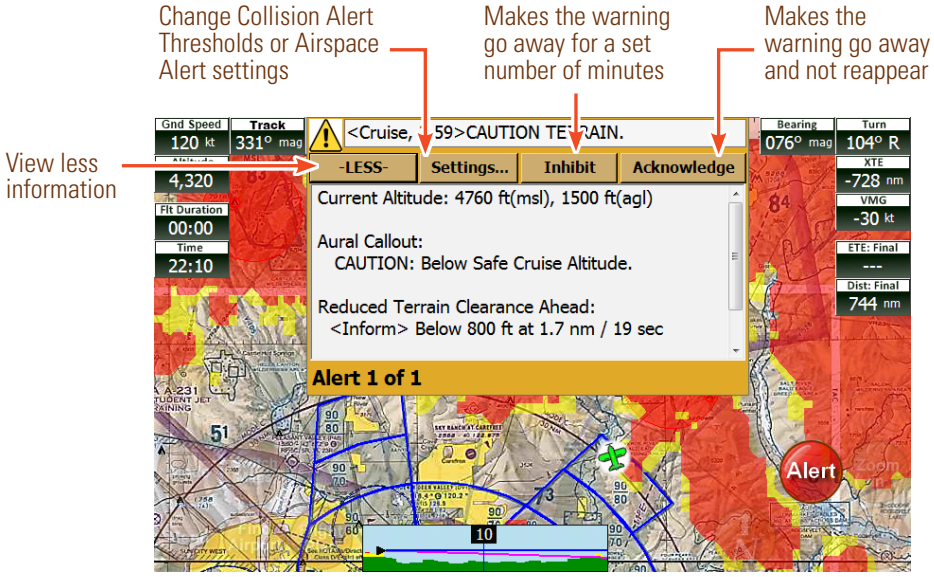
Managing Active Collision Alerts

You have several options when a collision alert pops during flight:



When viewing the full information screen:

- If you touch **Inhibit,** you have the option of selecting when the alert will pop again (choose "1 minute," "5 minute," or"15 minute") or you can choose to disable the alert for that specific airspace/collision for your entire flight (choose "Entire Flight").
- If you touch **Acknowledge,** the alert will go away and will not reappear if your course never changes. But if you change course so you are no longer intercepting the airspace/collision, then turn back to an intercepting course, the alert will pop again. If you are flying in circles next to an airspace, the alert will keep popping up.



Airspace Alerts

Setting Airspace Alerts

Airspace Alerts provide a warning before you fly into an airspace. To control how Airspace Alerts pop for each airspace type, touch **Menu** → **Setup** → **Alerts and Warnings** → **Airspace Alerts**. The following options are available:

1) **Alert Modes –** Select the airspace types that will pop an alert box.
   - **Do not Alert** – No warnings will be provided for the specified airspace type.
   - **Show Alert Button** – This is an "unobtrusive" warning. The **Alert** button will appear, along with a loud sound, indicating you are approaching the airspace. Touch the **Alert** button to view the alert message.
   - **Show Pop-Up Alert Message** – This is an "obtrusive" warning. A message box will appear warning you that you are approaching an airspace (see below).

2) **Altitude Buffer –** Define the altitude buffer for an airspace. If your GPS altitude is within the buffer distance of the airspace's floor or ceiling, an alert will pop. If you are above or below the airspace by more than the buffer, an alert will not pop.

   For example: If an airspace has a floor of 1000 ft, and a ceiling of 3000 ft, and you set the altitude buffer to be 500 ft, you will be warned of approaching the airspace if you are between 500 and 3500 feet.

3) **Alert Distance –** Defines how far out an alert message should pop. Distance can be defined in terms of distance from the airspace, or time to intercept the airspace.

   For example: If you set the distance to 5 minutes, a warning will appear when your ETA to intercept the airspace is 5 minutes. If you set it to 5 NM, the warning will pop when you are 5 NM from the edge of the airspace.

Customizing Airspace Display Modes

You can customize how each of the Special Use Airspaces are displayed: **Hidden, Shaded, Outlined,** or **Shaded and Outlined.** Access by touching **Menu** → **Setup** → **Alerts and Warnings** → **Display Modes**.

Note: Some airspaces will not display at all zoom levels. The following tables show the zoom levels when airspaces will be displayed.

Sectional Mode	
Airspace	**Zoom levels**
Class B	5-10
Class C	5-10
Class D	5-8
Warning	None
Alert	All
MOA	None
Prohibited	All
Restricted	All
TFR	All

Vector Mode	
Airspace	**Zoom levels**
Class B	All
Class C	All
Class D	1-8
Warning	All
Alert	All
MOA	All
Prohibited	All
Restricted	All
TFR	All

Low-Enroute Mode	
Airspace	**Zoom levels**
Class B	6-10
Class C	6-10
Class D	6-8
Warning	None
Alert	6-10
MOA	None
Prohibited	6-10
Restricted	6-10
TFR	All

Terrain Highlights

To configure terrain highlighting, touch **Menu** → **Setup** → **Alerts and Warnings** → **Terrain Highlights**.

Note: Terrain highlighting can also be modified by touching the Vertical Profile instrument, then Highlights.

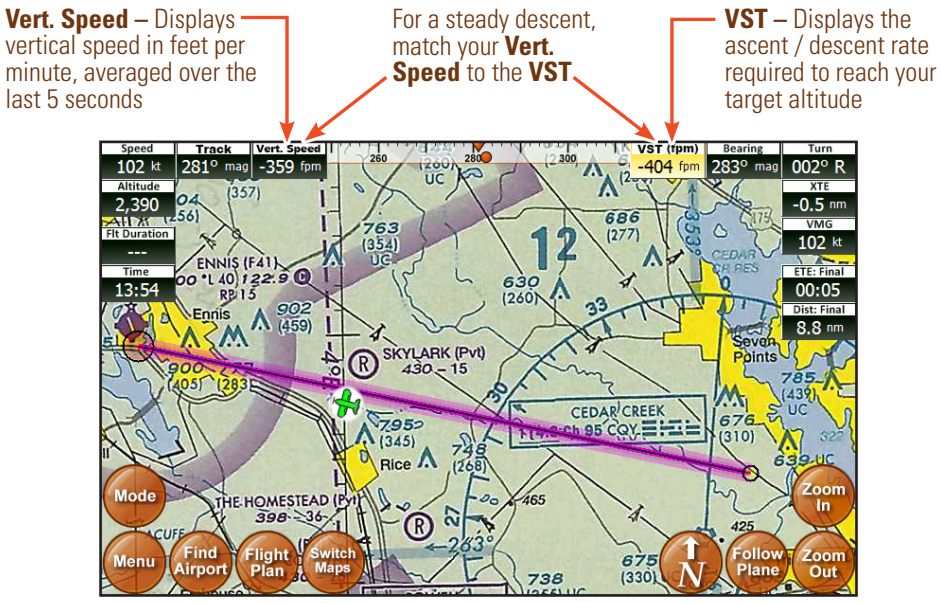
Mode	Choose to view terrain highlights as solid or flashing, or disable terrain highlights. *Note: Terrain highlights are dimmed when there are no active alerts and become bold when alerts are active.*
Radius	Enables highlighting on the map within the selected radius of your current location: 25 nm, 50 nm, 100 nm or Unlimited.

Vertical Speed to Target Instrument

Use the **Vertical Speed** and **Vertical Speed to Target** instruments to follow the correct ascent / descent rate to reach the target altitude of the waypoints in your flight plan.

To manually define altitudes for non-airport waypoints in your flight plan, see "Option 5: Vertical flight planning" on page 21.

Note: he target altitude for an airport is assumed to = pattern altitude x miles from the airport.



> ⚠ ***Warning:*** Your aircraft's pressure altimeter shows the altitude based on the air pressure recorded at ground level. The iFly GPS shows altitude above sea level.
>
> These altitudes can vary by as much as 10%.
>
> **If there is a discrepancy, always use your pressure-indicated altitude as the correct source, not the GPS altitude.**

Customizing Vertical Speed to Target Settings

Vertical Speed to Target is an instrument that pops to show the ascent / descent rate in feet per minute required to reach the target altitude of the waypoints in your flight plan.

- Add the **Vert. Speed** and **VST** (Vertical Speed to Target) instruments to your display using the Instrument Setup form. Touch **Menu** → **Setup** → **Customize Instruments** (see page 24 for a description of the Instrument Setup form).
- By default, the VST instrument only appears when a climb is required or when the descent requirement is greater than -350 fpm. However, you can customize the VST instrument settings. Touch **Menu** → **Setup** → **Alerts and Warnings** → **Vertical Speed to Target Settings**.
  - Set the pattern altitude distance from airport, from 1 NM to 10 NM
  - Show the VST instrument all the time or have it appear when *climb* exceeds a setting from 50 to 1000 fpm
  - Show the VST instrument all the time or have it appear when *decent* exceeds a setting from 50 to 1000 fpm

AHRS Alerts

This feature requires a connected AHRS device. To configure AHRS Alerts, touch **Menu** → **Setup** → **Alerts and Warnings** → **AHRS Alerts**.

Pitch Threshold	20 deg, 25 deg, 30 deg, 40 deg, 50 deg, Disabled
Roll Threshold	30 deg, 40 deg, 50 deg, 60 deg, Disabled

Changing Map Modes

Touch the **Mode** button on the Main Screen and select one of the following options to change the map mode.

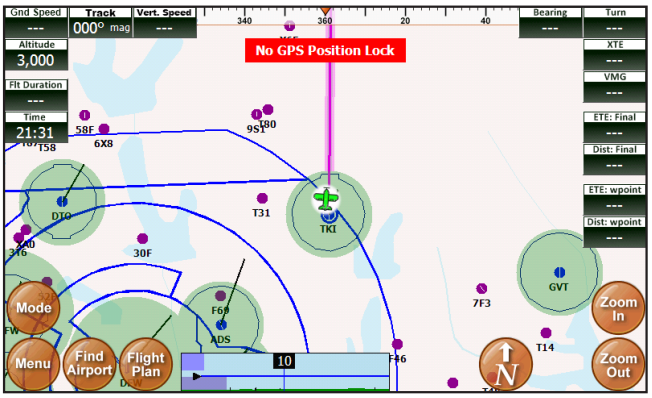
Sectional Charts	Map based on the sectional charts.
Low-Enroute Charts	Map based on the IFR Low-Enroute charts.
Terminal Area Charts	Map based on Terminal Area Charts.
World Aeronautical Charts (WACs)	Charts showing topographic information, airports, and radio navigational aids. These charts are similar to sectional charts, and the symbols are the same, except there is less detail due to the smaller scale. WACs are primarily useful for strategic flight planning, where a comprehensive view of the entire flight area is useful.
Vector	Vector mode provides an uncluttered view of surrounding airspaces and SUAs (Special Use Airspaces) using the following color codes: ■ Purple = Warning ■ Gray = MOA (Military Operations Area) ■ Yellow = Alert ■ Orange = Restricted ■ Red = Prohibited or TFR (Temporary Flight Restriction)
Weather	Weather information is shown a shaded circle over each FAA weather reporting station (see page 34). There are two types of weather modes: **1.** Pre-flight is downloaded from www.iFlyGPS.com during an update. Pre-flight weather includes TAFs, METARs, Winds Aloft and a Graphical VFR/IFR map with touch reporting. **2.** ADS-B Live Weather requires a third-party ADS-B receiver. It provides NEXRAD with animated loops, TAFs, METARs, and PIREPs (Winds Aloft and TFR are not currently supported).
Plates & Diagrams	Graphical information published by the FAA for specific airports (see page 36).
Instruments Panel	Interactive and customizable screen showing a "6-pack" of instruments (see page 37): ■ Altimeter ■ Groundspeed ■ Horizontal Situation Indicator ■ Turn Indicator ■ Vertical Speed ■ Artificial Horizon (if ARHS device is detected)
Day / Night Mode	When **Night Mode** is selected: ■ The screen will be fully dimmed ■ Sectional, TAC, and Enroute charts will be darkened by 50% ■ The Plate Viewer will present the plate in inverted colors ■ The Airport Information page will use darker background colors ■ Flight Plan Form and Find Airports results will show in inverted colors *Note: After night mode use, select Day Mode to remove the 50% darkening layer. If you increase the brightness with the remote or menus, the iFly GPS will not be at 100% brightness and could be difficult to view in daylight conditions.*

Weather Mode

To view Weather Mode, touch **Mode → Weather** from the Main Screen. Weather information is shown on the map as a shaded circle over each FAA weather reporting station. The circle's color will indicate the conditions:

- Green: VFR
- Blue: Marginal VFR
- Red: IFR
- Magenta: Limited IFR

Note: VFR circles will only be shown when zoomed in. Zooming out will show circles of Marginal VFR or worse conditions.

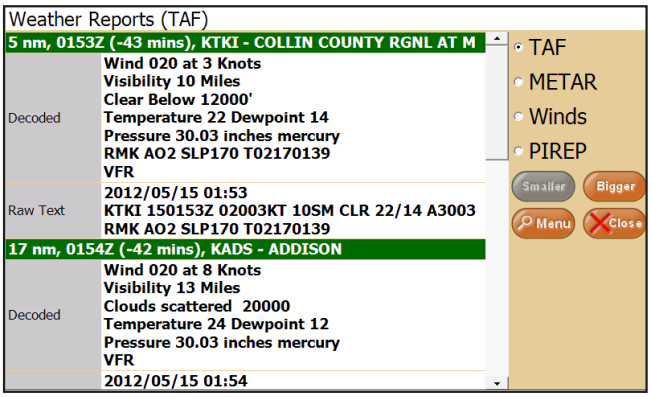


Touch the map to open the **Weather Report Screen**, which shows weather information in descending order of distance from the touch-point.

Weather details include: TAFs (Terminal Area Forecasts), METARS, Winds and Temperatures aloft, and PIREPs.

Notes:

- *TFR, Winds, and PIREPs expire after 12 hours, METARs expire after 4 hours. Expired data will not be shown on the iFly.*
- *When viewing weather information, always note the time and age of the information in order to judge current relevance.*

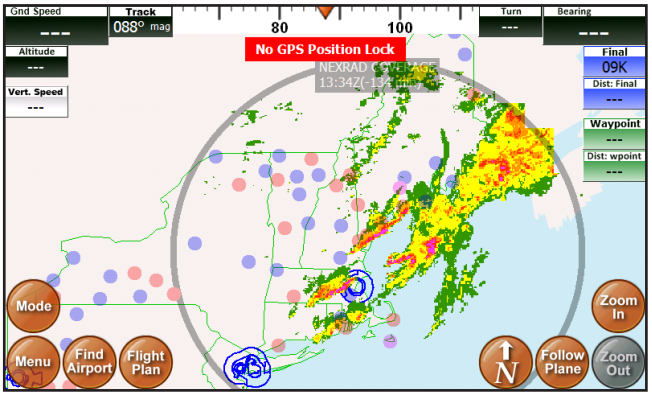


ADS-B Live Weather

When using an ADS-B device, weather data will be kept current in a 250 NM radius around the ADS-B reporting station. In addition, if there is any precipitation within approximately 250 NM of the ADS-B reporting station, it will be displayed on the weather page as a NEXRAD radar image.

NEXRAD image color describes weather intensity:

- Green – Light rain or moderate snow
- Yellow/Amber – Moderate rain or sleet
- Orange – Heavy rain or sleet
- Red – Thunderstorms
- Pink/Magenta – Heavy thunderstorms, hail, or other extreme weather



Warning: ADSB/NEXRAD data should be used for ***long-range planning*** only. Weather information on this device, regardless of the source, is not appropriate for use in short-range weather avoidance.

The NEXRAD image should update approximately every five minutes. A time stamp will show in fixed location near the bottom of the screen.

To animate a history of images, touch and hold the screen to get the **Possible Actions Menu**, then touch **Animate NEXRAD.** A history of images from the prior 30 minutes will cycle several times, then animation will cease.

The **Mode** menu will be modified depending upon the ADS-B device connection status. These are not error conditions; ADS-B can only be received at certain altitudes, so if the plane has not yet taken off, descends below a threshold, or flies out of an area covered by an ADS-B broadcast, the menu will change accordingly.

- **Weather (ADS-B live weather):** Weather data is currently streaming into the iFly.
- **Weather (ADS-B online, idle):** Device is connected and communicating, but no weather data has been received in more than 60 seconds.
- **Weather (ADS-B online, no data):** Indicates there has either never been data received, or none in the past 5 minutes.

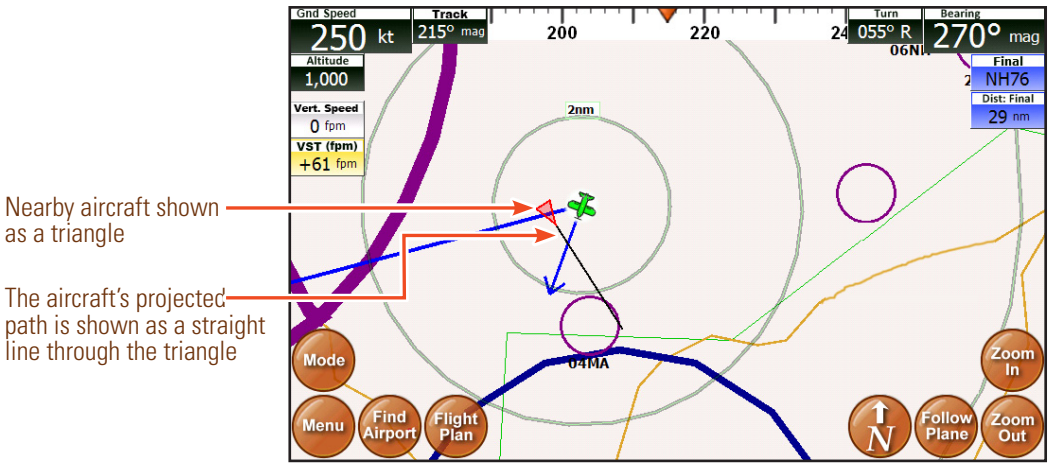
See "Installing an External ADS-B Device" on page 39 for information about receiving live weather reports from a connected ADS-B device.

Traffic Mode

If traffic data is included with your ADS-B device, the data will be culled and relevant nearby traffic will be displayed on the iFly GPS screen.

- When an aircraft is within 5 NM +/- 3000 feet of your current position, the alert button will appear, the alert tone will sound, and the plane will be drawn on the screen.
- The iFly GPS will show traffic down to the ground.

Note: Information about other aircraft is broadcast sporadically. The iFly GPS will automatically estimate the current position of the nearby airplane based on the last known speed and bearing.



Warning: Some ADS-B receivers and transceivers will receive and send information about area traffic to the iFly GPS. However not all receivers support this capability, and some provide only limited traffic capability. Check with your ADS-B manufacturer for complete details on how your receiver handles traffic information.

Plates & Diagrams Mode

The Plate Viewer Screen displays additional graphical information published by the FAA for a specific airport. Access by touching the **View Plates** button on the **Airport Information Screen**. Or from the Main Screen, touch **Mode → Plates & Diagrams**.

The first time you select **Plates & Diagrams**, you will be prompted to select a plate or diagram to view:

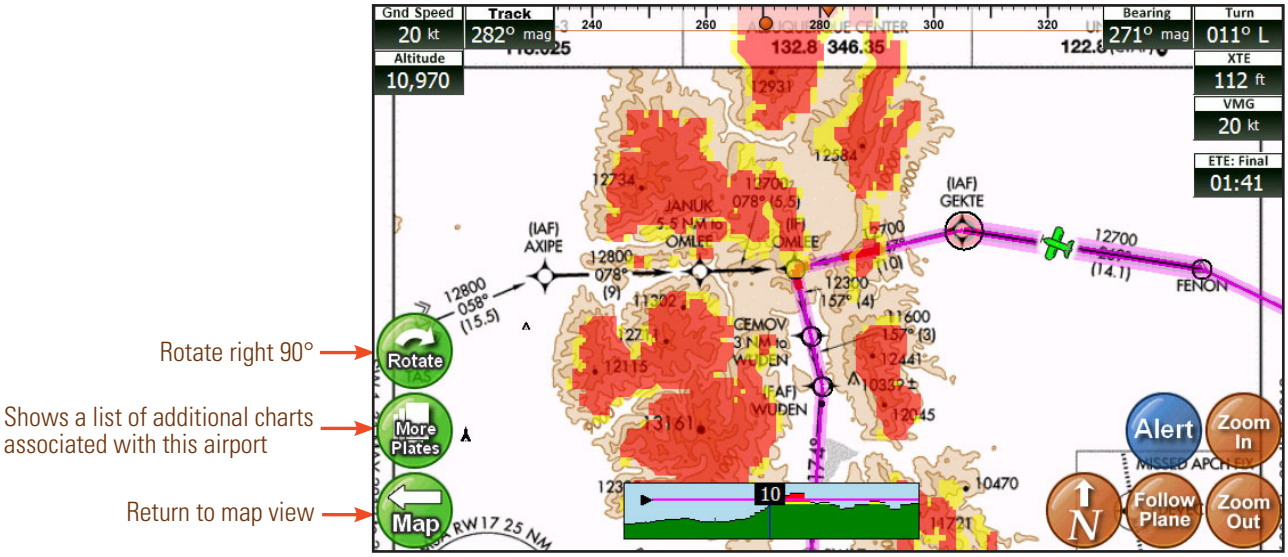
- **Recently Viewed:** shows list of recently viewed plates
- **Destinations:** shows list of airports (waypoints) in your flight plan that have at least one associated plate or diagram
- **Near Me:** shows a list of airports in your area that have an associated plate or diagram
- **Specific Airport:** shows search dialog to find a specific airport

If you select **Plates & Diagrams** again later, the last viewed plate is shown.

The following types of plates can be viewed:

- Airport Diagrams
- Published Minimums
- Instrument Approaches
- Departures
- STARs (Standard Terminal Arrival) plates

On the plate selection menu, a plate listed with a green airplane icon indicates the plate is "georeferenced." This means your airplane, flight path, flight plan, etc, will all be visible on the plate. A non-georeferenced plate is shown as an image and these things are not visible. In addition, a georeferenced plate has a green border and a non-georeferenced plate has a red border.

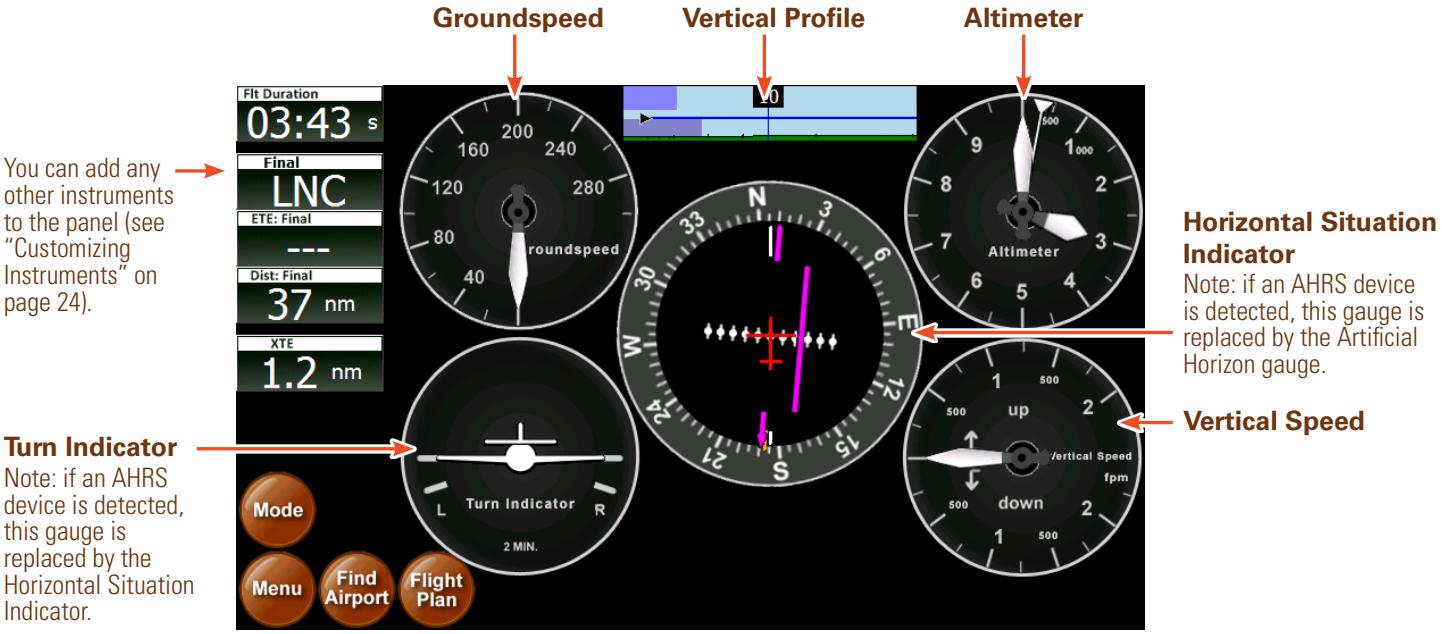


Notes:

- *Departure Diagrams and STARs are not georeferenced.*
- *Some Approach Plates and Airport Diagrams cannot be georeferenced.*
- *Pilots should check their planned plates prior to a flight to determine if they are georeferenced.*
- *Defaults to "North Up", but allows you to switch to "Track Up" (which is persisted).*
- *Plates & Diagrams Mode remembers its own Instrument Layout*

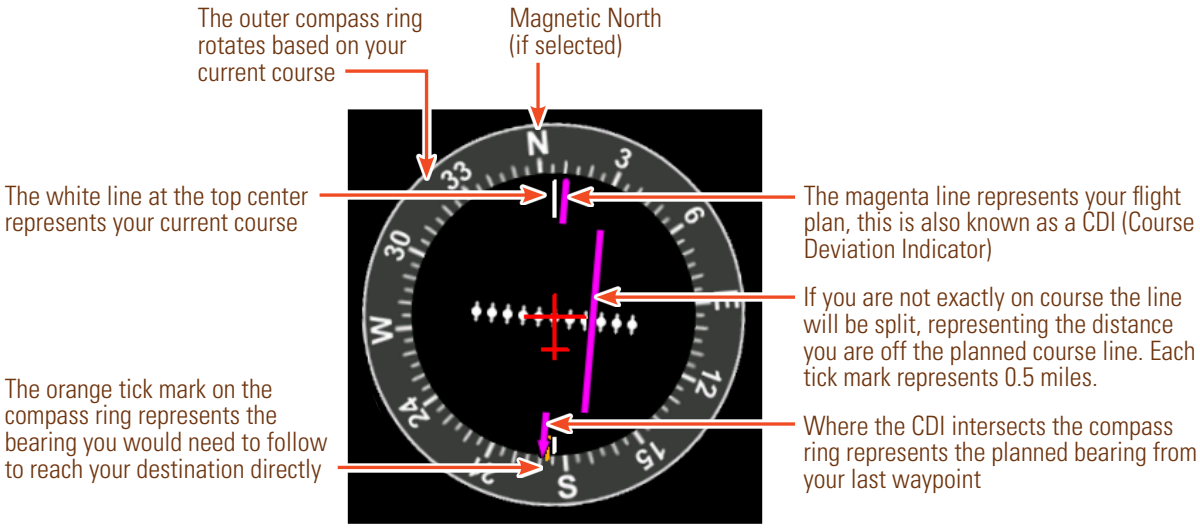
Instruments Panel

To view the Instruments Panel, touch **Mode → Instruments Panel** from the Main Screen. This is an interactive and customizable screen showing a "6-pack" of instruments. It can be viewed in both Landscape and Portrait Modes and will show Alerts.



Horizontal Situation Indicator

The Horizontal Situation Indicator (HSI) combines several data elements into one instrument: course-over-the-ground, cross-track error, planned bearing, and actual bearing.



Using the Remote Control

Install batteries: Open the battery compartment cover and install two AAA batteries (included), matching the polarity symbols (+ and –) marked inside.

POWER
Turns the *display* on and off
Note: only the screen is turned off; the GPS continues to function

OK
In map view, opens the Possible Actions menu (same as touching the screen for two seconds)
In a menu, selects the highlighted item

INFO
Displays information on the airport closest to the center of the screen

INST
Toggles between extended and basic instrument views

MAP
Toggles between active maps on the screen (same as "Switch Maps" button)

MENU
Opens the Main Menu

PLANE
Centers the display to your current location (same as the "Follow Plane" button)

▼▲◀▶
In map view, the arrows pan the screen.
A "target" appears while panning to highlight the center of the map. Touch once to begin panning. Touch again to stop.
In a menu, the arrows cycle through menu options

ZOOM+ / ZOOM-
Zoom in and out

BRIGHT ▲▼
Adjusts screen brightness

MODE
Select the map mode (see page 34)

Setting up the PDF Viewer

1. With your iFly GPS powered off, eject the SD card and insert it card into your PC. If your PC does not have an SD card reader, you can buy one from your local electronic shop.
2. Create a new folder in the SD card and name it "PDF".
3. Copy files with a ".pdf" extension into the new folder.
4. Return the SD card to the iFly GPS.
5. A new option to **View PDF Files** will now appear when you touch **Menu**.

External Devices

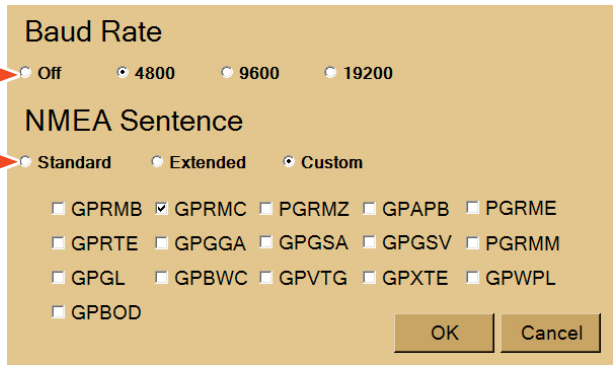
Sending GPS Info to External Devices

The NMEA Output feature can be used to send GPS information to external devices such as an autopilot, fuel computer, or anything else that understands a GPS signal. Access by touching **Menu → Setup → NMEA Output.**

1. A special USB-to-Serial cable is required and can be purchased at www.iFlyGPS.com.
2. Wire the USB-to-Serial cable to the external device, using PIN 3 for data, and PIN 5 for ground.
3. Select the desired NMEA settings by touching **Menu → Setup → NMEA Output.**

Off: NMEA data will not be sent to the serial port

Standard: Basic GPS location data will be sent to the serial port at 4800 baud.
Extended: Basic GPS location data plus course information will be sent to the port at 9600 baud.
Custom: Select a baud rate and specific sentences to transmit. For more information, refer to the external device's owners manual or go to http://en.wikipedia.org/wiki/NMEA_0183.

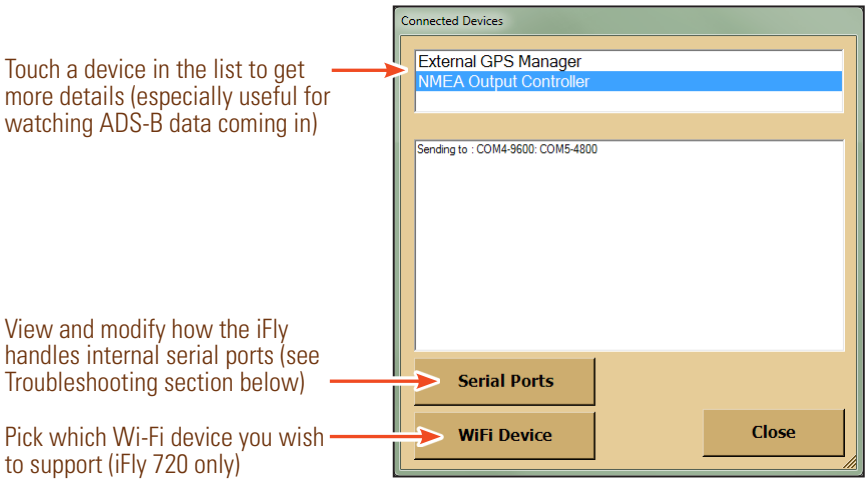


Installing an External ADS-B Device

1. Check www.iFlyGPS.com for a list of compatible ADS-B devices.
2. Plug a compatible ADS-B device into the USB port of your iFly GPS.
   Note: If the device does not have a USB connector, but has an RS232 serial adapter, connect using the "USB to Serial Cable" available in the iFly GPS store at www.iFlyGPS.com.
3. Once connected, the iFly GPS will automatically begin updating weather information in Weather Mode. If available, PIREPs will also populate in Weather Mode.

Device Status

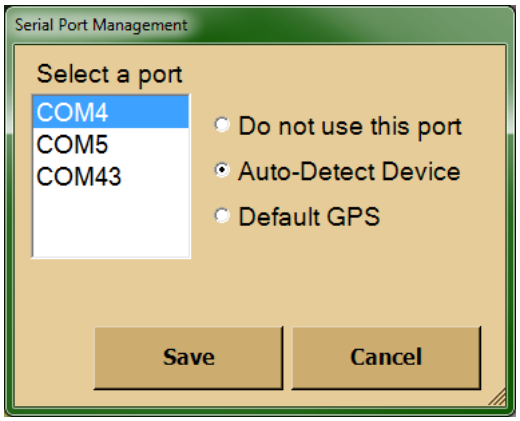
To check the status of your external devices, touch **Menu** → **About** → **Connected Devices**. The resulting dialog provides information about the device, including the quantity and time of data coming through the ADS-B device.



Troubleshooting External Devices

Follow these steps if you are having problems with an external device.

1. Unplug everything from the iFly, then do a fresh boot.
2. Touch **Menu** → **About** → **Connected Devices** → **Serial Ports**.
3. Touch each serial port: If nothing is plugged in, there will be 3 or 4 ports listed:
   COM2 should be set to "Default GPS"
   All the other ports should be set to "Do not use this"
4. Plug in your external USB plug. After a few seconds a new port should appear. Make sure this is set to "Auto Detect".
5. Reboot your device (reboot anytime you make changes here).



Frequently Asked Questions

What causes the "Weak GPS Signal" message?

There are several reasons that this message may appear: "Weak GPS Signal. Indicated Location / Altitude may not be accurate."

- If the unit is turned off for an extended period of time, it may take a long time before a GPS signal lock is re-aquired. This happens because the network of GPS satellites is in constant motion. The current health, location, trajectory, and altitude of each satellite must be determined before the GPS can triangulate on its current location. This data (known as the Almanac) is continually being broadcast by the satellite network. It can take up to 30 minutes for the GPS to download the Almanac, and a clear view of the sky is necessary to ensure the download is not interrupted. It is not necessary to do anything; the GPS will always download the latest Almanac information whenever satellites are in view.
- If the GPS is relocated a long distance (more than 100 miles) while turned off, it may have a more difficult time re-acquiring a signal lock. This is because modern GPS systems use the last known position to speed up the initial triangulation process. However, this logic has the opposite affect for a relocated GPS, causing it to take longer to realize its location has changed. To speed the initial lock after a relocation, you should touch "Menu" → "About" → "GPS Information" →"Reset GPS."
- If this message keeps coming and going while in flight, you may have a weak signal. There are numerous possible reasons for a weak signal: Local or ground interference, weather, number of currently "visible" satellites, age of internal Almanac database, shielding in the cockpit, etc. Even distortions in the earth's ionosphere can affect the signal strength.

Things to try if this problem persists:

- Reposition the GPS to get a better view of the sky.
- Perform a "Factory Reset" – this will flush the Almanac and force the system to download the latest information. Touch "Menu" → "About" → "GPS Information" →"Reset GPS" → "Yes" →"OK." (After this step, the "Reset GPS" button will be changed to "Factory Reset.") Touch "Factory Reset" → "Yes" →"OK."
  Note: it will take up to 30 minutes to re-aquire a signal lock after this step.
- Install an external antenna. Antennas are available at www.iFlyGPS.com.

Why does it look like my plane is flying on the legend area of a sectional?

When you approach the edge of a sectional, the iFly GPS will attempt to automatically switch to the appropriate map. If this does not happen correctly, touch the "Switch Maps" button to change to a more appropriate map.

Why are items on the sectional not aligned perfectly?

If your flight plan to an airport seems to place you a little distance from an airport location on the sectional, or you notice that some of the airspace highlights don't perfectly overlap the sectional airspaces, there is a simple explanation for this:

- The FAA sectional maps are still created using a lot of manual processes, causing the location of individual elements to be off a little bit. This issue exists in the printed paper charts, as well as all other tools and applications that employ the FAA scanned sectional maps.

FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by Adventure Pilot, LLC may cause interference and void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

iFly GPS Adventure Pilot, LLC
Consumer Limited Warranty (U.S. only)

Adventure Pilot LLC warrants this product against defects in material or workmanship for the time periods and as set forth below.

Labor: For a period of **one (1) year** from the original date of purchase of the product at retail, Adventure Pilot, LLC will replace product determined to be defective with new or refurbished product.

Parts: For a period of **one (1) year** from the original date of purchase of the product at retail, Adventure Pilot, LLC will supply new or refurbished replacement parts in exchange for parts determined to be defective.

This Limited Warranty covers only the hardware components packaged with the Product. It does not cover technical assistance for hardware or software usage and it does not cover any software products whether or not contained in the Product; any such software is provided "AS IS" unless expressly provided for in any enclosed software Limited Warranty.

This Limited Warranty only covers product issues caused by defects in material or workmanship during ordinary consumer use; it does not cover product issues caused by any other reason, including but not limited to product issues due to commercial use, acts of God, misuse, limitations of technology, or modification of or to any part of the Adventure Pilot, LLC product. This Limited Warranty is invalid if the factory-applied serial number has been altered or removed from the product. This Limited Warranty is valid only in the United States.

TO OBTAIN WARRANTY SERVICE:

A dated purchase receipt is required. You must deliver the product or parts, freight prepaid, in either its original packaging or packaging affording an equal degree of protection. It is your responsibility to backup any data, software or other materials you may have stored or preserved on your unit. It is likely that such data, software, or other materials will be lost or reformatted during service and Adventure Pilot, LLC will not be responsible for any such damage or loss.

Adventure Pilot
610 Elm Street, Suite 120
McKinney, Texas 75069

For specific instructions on how to obtain warranty service for your product visit
http://www.iflygps.com/support

Or Call Adventure Pilot Customer Information **1-888-200-5129**

Repair/Replacement Warranty: This Limited Warranty shall apply to any repair, replacement part or replacement product for the remainder of the original Limited Warranty period or for (120) days, whichever is longer. Any parts or product replaced under this Limited Warranty will become the property of Adventure Pilot, LLC.

Limitation on Damages: Adventure Pilot, LLC shall not be liable for any incidental or consequential damages for breach of any express or implied warranty on this product.

Duration of Implied Warranties: Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose on this product is limited in duration to the duration of this warranty.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This limited Warranty gives you specific legal rights and you may have other rights which vary from state to state.