

# Version 3.6.1

2025/5/5

Fixed a bug introduced in 3.6.0 that would cause a Pixy U gimbal running firmware version 7.5.6 to stop working shortly after turning it on

Fixed some typos in the explanations for some of the parameter validation checks

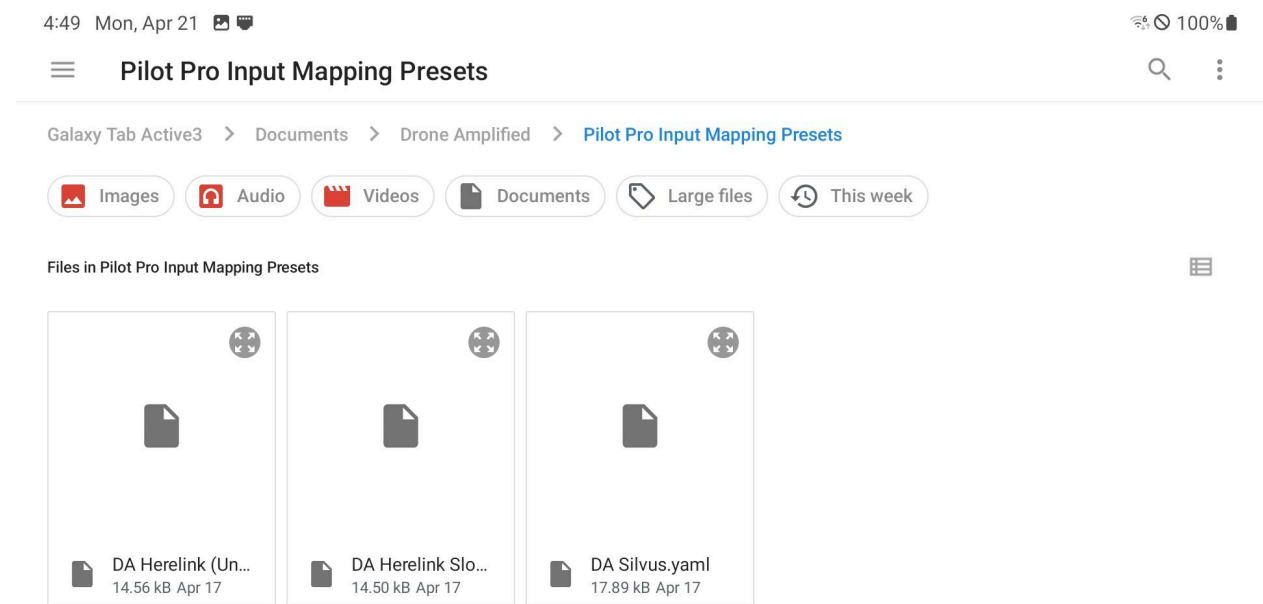
# Version 3.6.0

2025/4/29

## Pilot pro input mapping presets

Do you dislike how S1 and D1 on the Pilot Pro invert and scale the left rocker? Run this version of the app on your Pilot Pro tablet, and it'll generate some .yaml files you can use to reconfigure your Pilot Pro controller to prevent this from happening.

Launch the Pilot Pro app, click the menu button at the top, then click "Input Mapping". Click "USER PRESETS", then "IMPORT". Navigate to /Documents/Drone Amplified/Pilot Pro Input Mapping Presets/.



If you're using a Pilot Pro controller with a Silvus radio, then we already set up an input mapping preset for you that unbinds D1, S1, A1, and A4, so you don't need to do this, but we include a copy of that file here just in case.

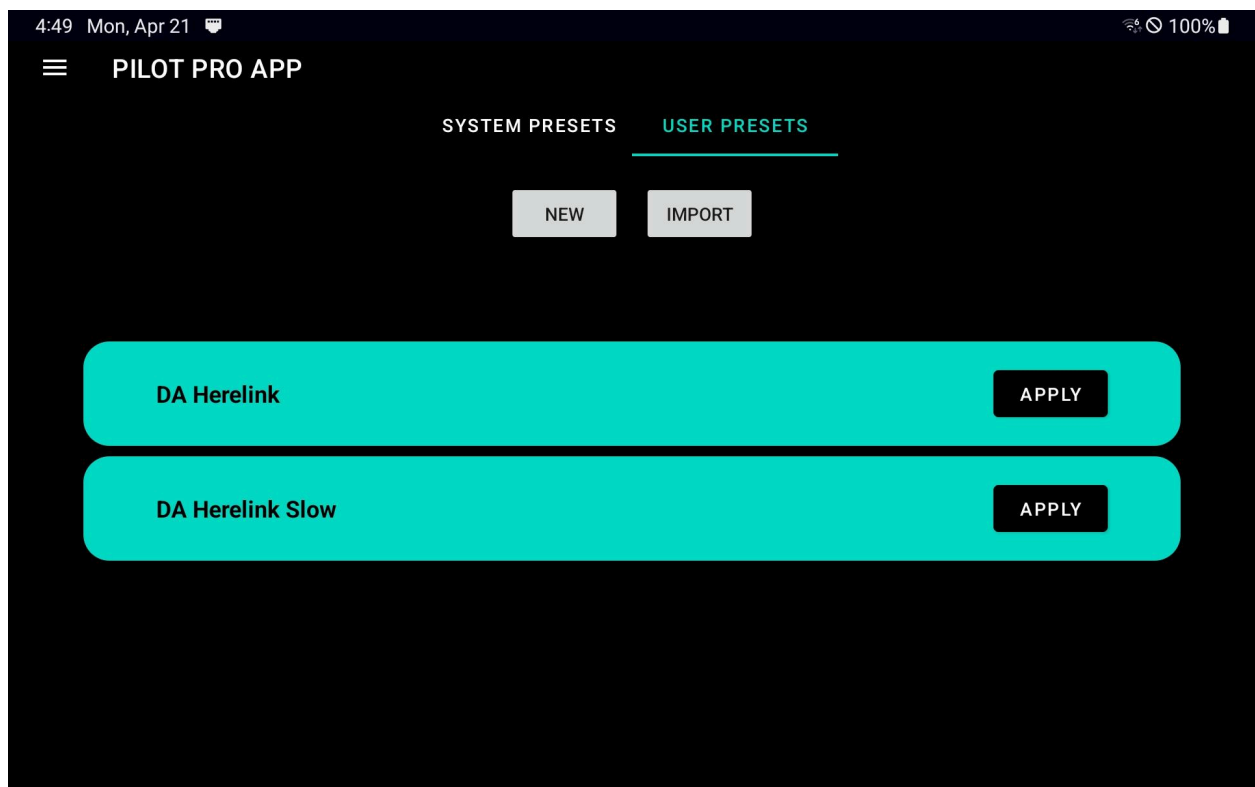
If you're using a Pilot Pro controller with a Herelink radio, you'll find two files for you in that folder:

- DA Herelink (Unbinds D1, S1, A1, & A4).yaml
- DA Herelink Slow (Unbinds D1, S1, & A4).yaml

~~If you're using an Alta X, then we recommend selecting DA Herelink. This will prevent D1 and S1 from affecting the left rocker, and also disable A1 (Slow mode) and A4 (Manual mode). The Alta X doesn't support slow mode, so there's no harm in disabling it. It's very easy to crash if you put the drone into Manual mode, so we recommend disabling it too. We've already disabled it from the drone side on most Alta X's.~~

Update 2025/6/20: If you're using an Alta X, we recommend using DA Herelink Slow, as A1 is used as one part of Ignis's emergency release. If you select DA Herelink, then Ignis will emergency release whenever you press the Position mode button.

If you're using an Astro, then you can select between the two, depending on whether you want to use Slow mode or not.



Once you import it, you'll then need to click the "APPLY" button in the Pilot Pro app. Confirm your mapping by tapping the power button on the Pilot Pro controller to cycle through the OLED screens to page 2, where it should say DA Herelink or DA Herelink Slow.

Now that S1, A1, and A4 don't do anything, you can bind them to other functions by customizing your bindings in DA Flight.

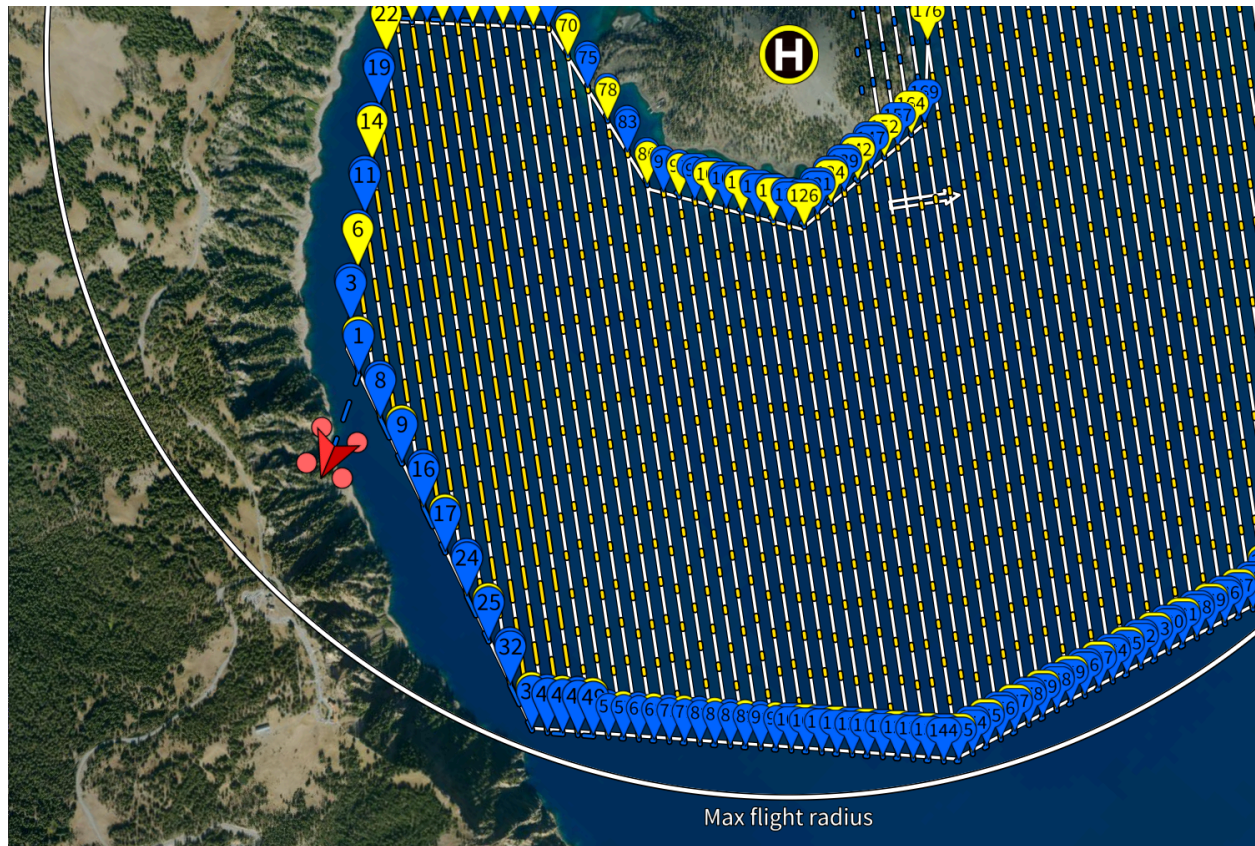
## New App Settings

- If you customize your app bindings, you can bind a button to Mark rangefinder. So, if you're using a Gremsy Vio or a LR1 with the SF20, then the app will create a laser mark on the map at the point the rangefinder is measuring. It'd be nice to add this to our standard Ignis profile, so let us know where you'd prefer it.

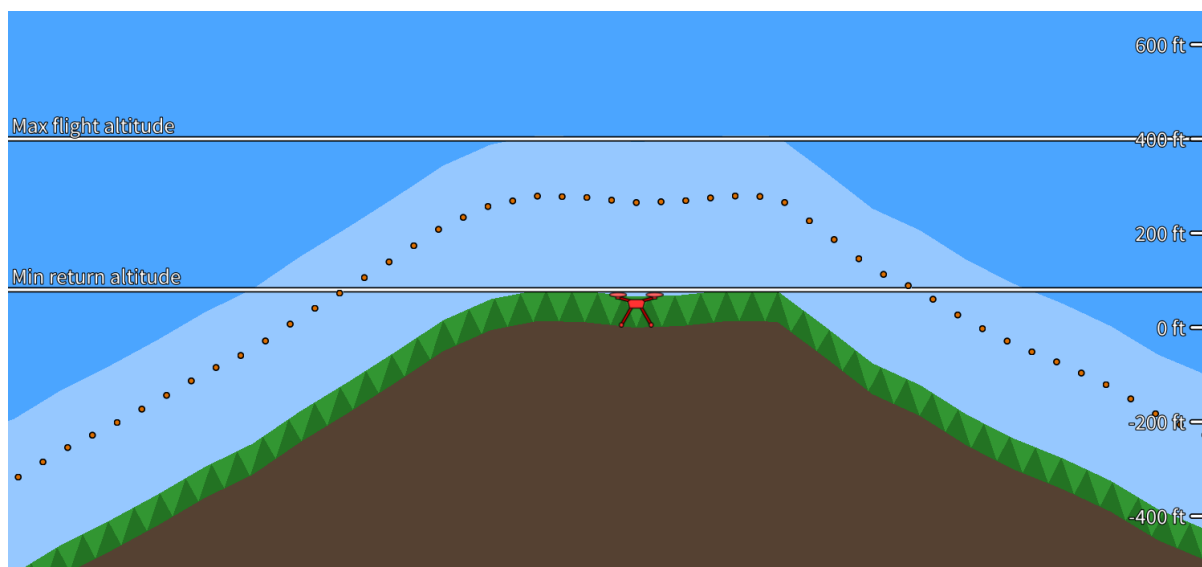


- If you customize your app bindings, you can bind a button to Drop 1 payload, which will drop 1 ignition sphere if you're using Ignis.
- If you customize your app bindings, you can bind a button to switch to Onboard mode, in case you have an onboard computer that can autonomously fly the drone.
- You can now select which payload interface you would like to see, instead of having to connect it. APP SETTINGS -> Payload interface. If none is selected, the Drop location persistence setting will be hidden.
- Added option to have the Camera controls sidebar always be visible. APP SETTINGS -> Always show orientation on HUD.
- Added an option to hide the minimap when the video feed is maximized. APP SETTINGS -> No minimap. Click on the drawing icon, the transects icon, or the waypoint icon to switch back to the map view.

## Mission planning user interface improvements

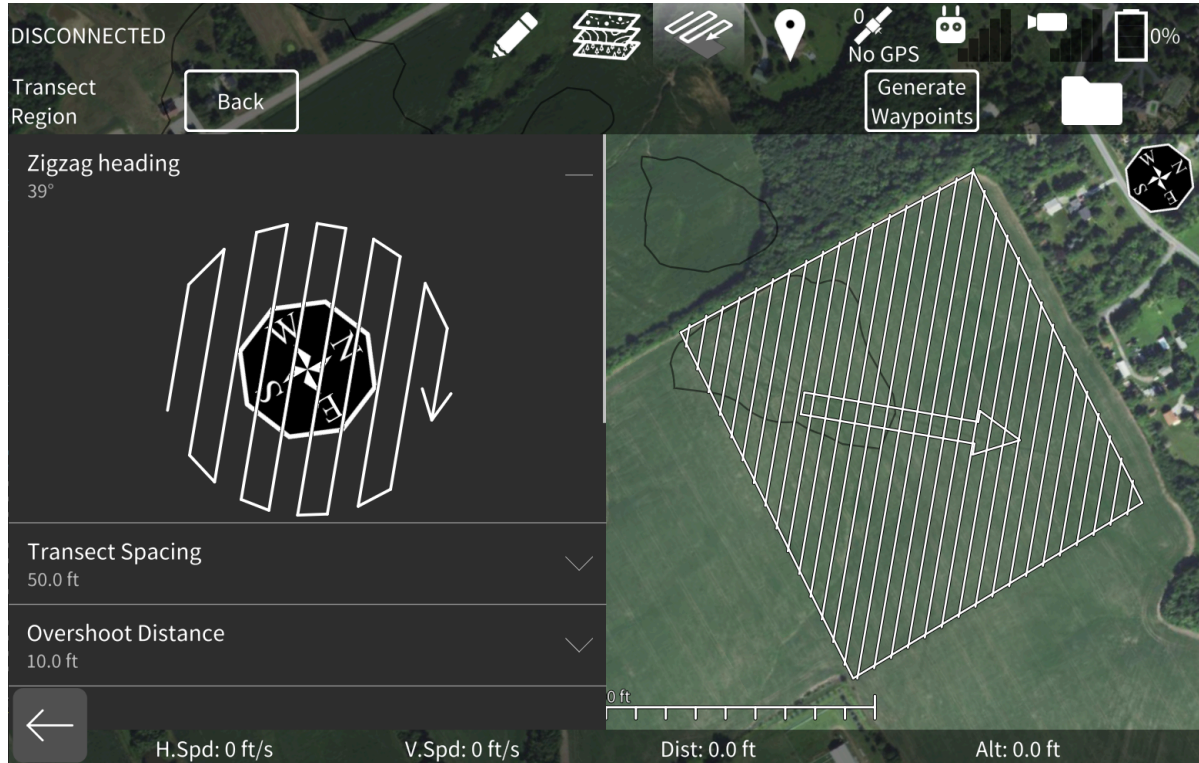


- Increased the maximum number of waypoints you can have in your planned mission from 99 to 999. There's no way you'll be able to successfully upload a 999 waypoint mission to the drone, so you have to do the mission incrementally by uploading only the beginning of the mission. The default maximum number of waypoints that will be uploaded at a time to the drone has been reduced to 50.





- If you've enabled the Maximum flight radius or maximum flight altitude, these limits will appear on the Fly screen, because they will prevent you from starting a mission that exceeds these.
- The minimum return altitude will also be displayed on the side view.



- Transect settings only cover half the map, so you can see the effect of changing them.
- The transect zig-zag heading setting is now a dial instead of a keyboard input.
- You can no longer start your mission from the Waypoint Settings menu. You must be looking at the Side View in order to start the mission.
- Renamed Curve radius to Acceptance radius. This is the distance from the waypoint at which the drone will consider it as having reached it. The Alta X's position controller isn't very good, so if you set this too small, then it'll spend a long time bouncing around the waypoint before it manages to "reach" it.
- Rearranged Clear, Undo, Redo buttons so they consistently appear in that order.

## Drone Setup improvements

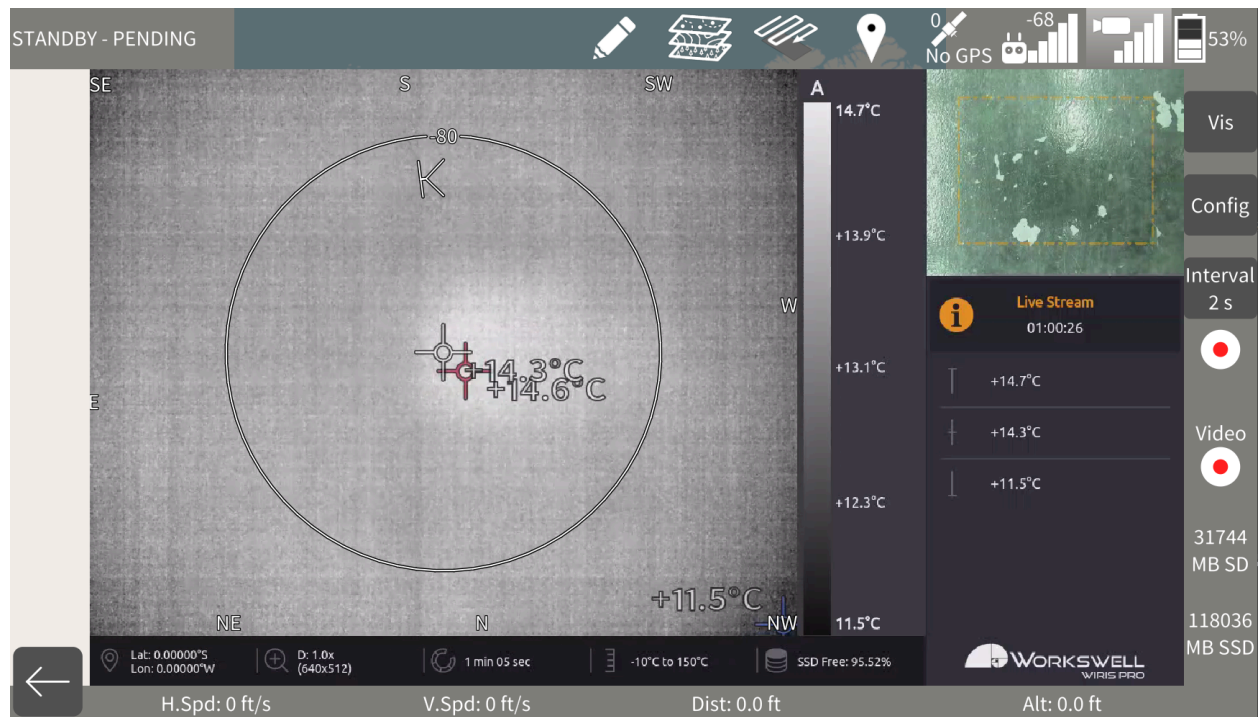
- Total flight time of the drone is now displayed in DRONE SETUP -> Flight controller info
- When you click on the status at the top left of the FLY Screen, you'll see a list of all of the messages the app received, not just the most recent two. This is the information that DRONE SETUP->Diagnostics used to show, so that has now been removed.

- Added Low Battery Threshold (Warning) setting to Automated Procedures. When the battery reaches this percentage, the flight controller will send you a message about low battery.
- The app will now warn you about battery-related parameters that don't conform to our recommendations. <https://guide.droneamplified.com/TSB-Battery-Parameter-Update>
- Our Pilot Pro with Silvus Radio setup now uses the same MAVLink connection option as the Pilot Pro with Herelink to Alta X, so these have been combined into a single Pilot Pro to Alta X configuration.

## Misc improvements

- Compass directions (N, NE, E, etc) that are off the edge of the video feed will now be displayed along the edges leading to the horizon
- When you capture a photo, its identifier will be displayed for 1 second along the bottom of the video feed while the feed is maximized. This is mainly to give you some feedback that photos are actually being captured.
  - DA Wiris Pro: The path to the image file on the SD or SSD
  - NextVision: The filename of the image file on the SD Card
  - Gremsy Vio: The number of the photo
  - Freefly A7R, LR1, Wiris Pro, Boson, FPV: The URL to visit from the Pilot Pro tablet. Note that these messages can be lagged by a few seconds from the time that the photo was actually captured.
- The icons along the top of the FLY screen will be highlighted when you're in their menu.
- The DA Strobe attachment will automatically switch to the Auto Day or Auto Night mode when it first hears from the app. The mode is based on whether you're between 7 am and 7 pm local time.
- The DA Rangefinder attachment's readings will be filtered, so it won't give you false positives when it's not getting any return. The sound has been changed so it will play periodically while within your warning distance, and get faster the closer you are to an obstacle.
- View parameter values when reviewing a flight log
- Rewrote the way the app navigates Android's filesystem, so all file operations will be a lot faster.
- Messages that appear at the bottom of the FLY screen will now be overlaid on the video feed if that's maximized, so it doesn't resize.
- You can download offline tile maps at any zoom level
- You can specify an extra HTTP header for your custom basemap server, in case it authorizes users that way.
- Moved default simulator takeoff location to Wizard Island

## Alta X Wiris Pro interface improvements



- Moved Vis, IR, and Config buttons to the sidebar.
- Added support for starting and stopping interval photos
  - Click the "Single Photo" button above the photo capture button.
  - Type in the interval in seconds you would like (must be an integer from 2 to 60), or, input 0 or nothing for single photos
- You can now select which thermal lens option your Wiris Pro has installed in DRONE SETUP -> Advanced configuration -> Wiris Thermal Lens. This defaults to the 19 mm lens, which is the one we've been selling.
- Capture buttons will darken if you're currently pressing a bound control

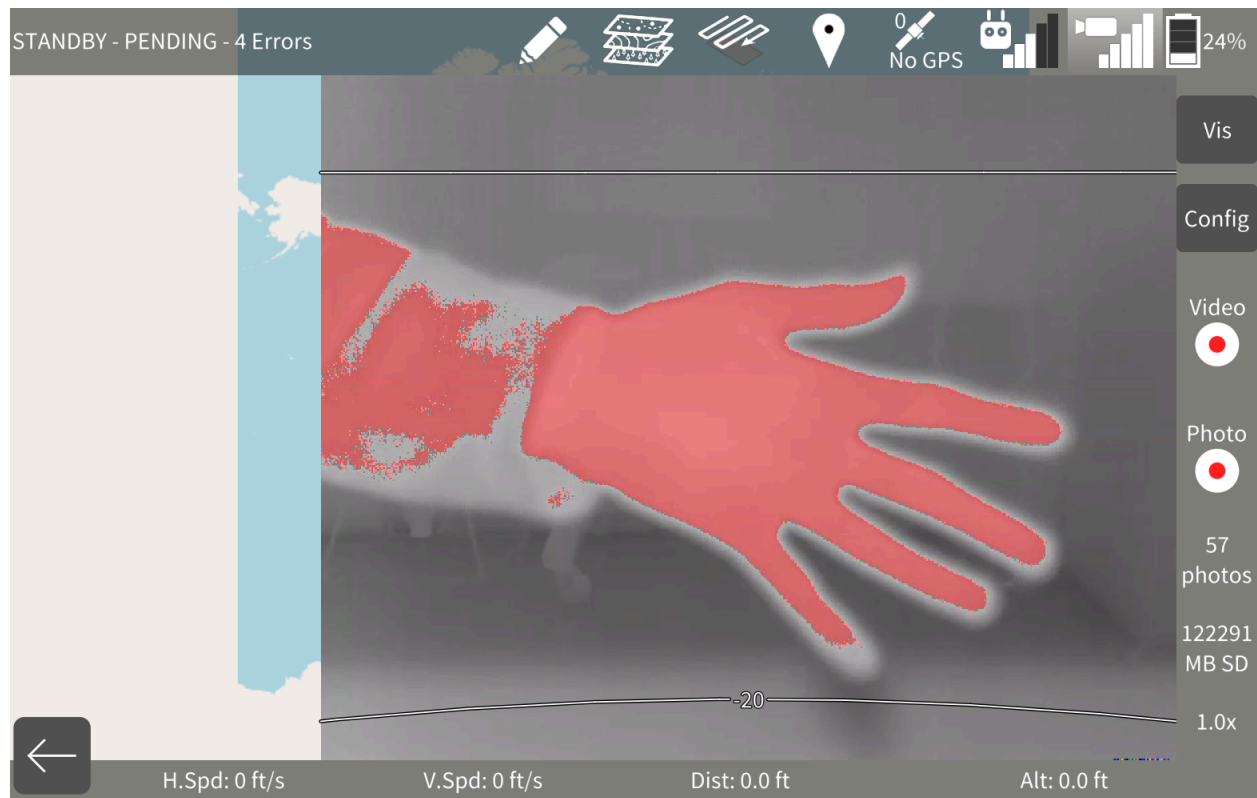
## NextVision interface improvements

BUG WARNING: If you're using an Astro with firmware 1.6.14 or later, the gimbal control on the Dragon Eye 2 will stop working every few seconds due to an Astro bug. So, you'll need to downgrade to 1.5.18 to use the Dragon Eye 2 until this bug is fixed.



- Moved Vis, IR, and NUC buttons to the sidebar
- Added support for starting and stopping interval photos
  - Click the "Single Photo" button above the photo capture button.
  - Type in the interval in seconds you would like (must be between 0.5 and 10 seconds), or, input 0 or nothing for single photos
  - The red circle on the photo capture button will become a red square while capturing interval photos. However, there isn't a great way for the app to tell if the NextVision is currently in an interval photo state besides listening for the messages about what photos have been captured. So, when stopping interval photos, the square will stay until your programmed interval time has passed and no photo has been taken.
- Capture buttons will darken if you're currently pressing a bound control

## Freefly Wiris Pro payload support



- Switch between Vis and IR
- Change parameters, photo interval, and lens option
- Shoot single and interval photos.
- Record video
- View photo count, SD or USB capacity (depending on image storage setting)
- Zoom visible camera
- Pitch gimbal up and down. Recenter and go to secondary position



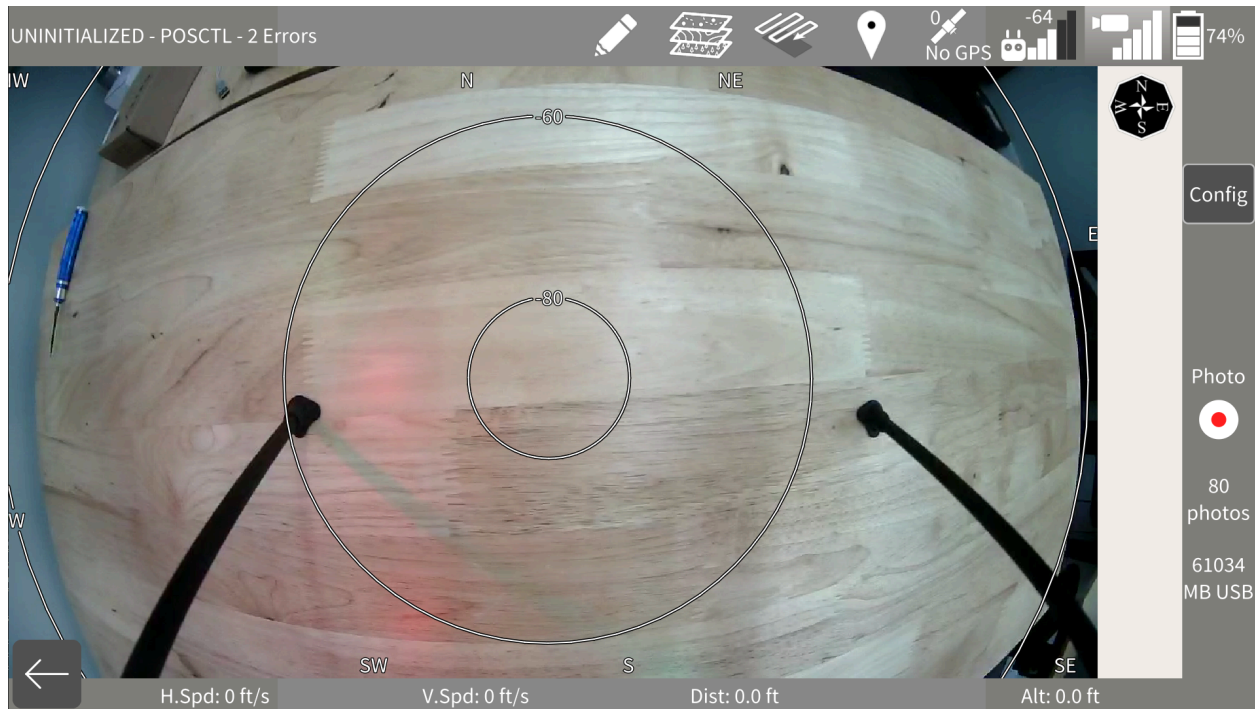
## Freefly LR1, SF20, and Boson payload support



- Switch between LR1, Boson, and FPV camera
- Change parameters, set photo interval
- Switch the LR1 between photo and video mode
- Record video with the LR1 (not Boson or FPV)
- Capture photos with all cameras simultaneously
- See photo count and recording time
- View USB or SD capacity, depending on the LR1's storage mode
- Digitally zoom the LR1, and see the current zoom level
- Pitch gimbal
- Recenter / Go to secondary position
- View distance measured by the SF20 rangefinder attachment



## Freefly Sonix USB FPV camera attachment support




- Usable standalone, or in conjunction with an a7R or LR1
- Change parameters, set photo interval
- Set mounting orientation (front, bottom, gimbal, or custom)
- Capture single or interval photos
- See photo count
- View USB capacity
- The HUD pitch circles are somewhat incorrect due to the fish-eye distortion.
- HUD circles will always be displayed when the feed is maximized and the camera is mounted on the body of the drone (not the gimbal)

## Copernicus 10 meter resolution global satellite imagery

For flights outside the continental U.S., Alaska, and Puerto Rico, we've added support for a 10-meter resolution global satellite imagery layer. Each user will need to create their own free Copernicus account in order to use it, because the download limit is too low for one account to support all of our users.

Go to [DOWNLOAD MAPS](#) → Copernicus configuration Id.



## Copernicus configuration Id

Required for 10 m resolution global satellite imagery basemaps

01234567-89ab-cdef-0123-456789abcdef

Click here <https://shapps.dataspace.copernicus.eu/dashboard/#/configurations/new> to create a Copernicus account and a configuration based on "Simple Sentinel-2 L2A template", then paste its Id here

### Custom basemap source

Use a basemap from a different tile server

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Paste


Select

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Expand it and click on the link displayed below it, which will open your browser to the Copernicus website where you can create an account, or log in to an existing account.

Once you've logged in, click Configuration Utility on the left, then click the New configuration button.



Dashboard

Configuration Utility

Usage

Copernicus Browser

Configuration Utility > Add new configuration

Configuration name:

DAFlight

Create configuration based on: \*

Simple Sentinel-2 L2A template

Create configuration

Cancel

Enter any name into the Configuration name box, select "Simple Sentinel-2 L2A template" from the dropdown, and click the Create configuration button.

Next you'll see a screen where you can edit some settings of the configuration. Expand the Natural color (true color) layer.

Name	Id		Collapse Layers
Agriculture	ID: AGRICULTURE		
Atmospheric penetration	ID: ATMOSPHERIC_PENETRATION		
Bathymetric	ID: BATHYMETRIC		
Color Infrared (vegetation)	ID: COLOR_INFRARED		
False color (urban)	ID: COLOR_INFRARED_URBAN_		
Geology	ID: GEOLOGY		
Moisture Index	ID: MOISTURE_INDEX		
Natural color (true color)	ID: TRUE_COLOR		

Source

Data processing

Time range

Cloud coverage

Mosaic order

Sentinel-2 - L2A

True color image by mapping the red, green and blue input bands. Value = B04,B03,B02 - RGB visualization. [Evalsript history](#)

☒ Absolute
☐ Relative

☐ From
☐ To

14 February 2025, 17:14 (U)

14 February 2025, 17:14 (U)

20

Least cloud coverage

[Preview](#)
[Advanced](#)
[Documentation](#)

Delete

Here you can change the maximum allowable cloud cover, and specify a date range for the imagery. By default, it will use the most recent imagery (typically up to a week ago) with 20% cloud cover or less.

On the left are more generic settings.

Configuration instance

DA Flight

Settings

- Show warnings: ☒
- Show logo: ☐
- Image quality:  100
- Map bounds: [+ Add bounds](#)
- Disable OGC requests: ☐

[Advanced settings](#)

[Save](#) [Delete](#)

Disable Show logo, and increase Image quality to 100, then click Save.

Below that is the ID of this configuration. Click the clipboard button to the right of it to copy it.

Service endpoints







ID 414c7156-ee67-4c3e-8a46-995e8c5bab5e

[Open in Copernicus Browser](#)

[Copy to another account](#)


In DA Flight, click the Paste button on the on-screen-keyboard to paste the ID into DA Flight.

Now if you open the layer list, you'll see Copernicus True Color as an option for your basemap layer.

	<b>OpenStreetMap Carto</b> Global street maps	<input type="checkbox"/>
	<b>National Agriculture Imagery Program</b> Satellite imagery of the contiguous U. S. and Puerto Rico	<input type="checkbox"/>
	<b>FAA VFR Sectional</b> VFR Sectional charts of the U. S.	<input type="checkbox"/>
	<b>Alaska High Resolution Imagery</b> For federal, state, local, tribal, and non-commercial use only	<input type="checkbox"/>
	<b>Alaska SPOT5 Imagery</b> For federal, state, local, tribal, and non-commercial use only	<input type="checkbox"/>
	<b>Copernicus True Color</b> Global satellite imagery	<input checked="" type="checkbox"/>

This layer will display global street maps when you're zoomed out, but will switch to the Sentinel 2 satellite imagery when you zoom in on the map.

Downloading imagery with the app will deplete some of your account's monthly credits. You can view how many credits you have left in your account's dashboard.

		Dashboard	
<ul style="list-style-type: none"> <li>Dashboard</li> <li>Configuration Utility</li> <li>Usage</li> <li>Copernicus Browser</li> </ul>		<b>Credits</b> <a href="#">Refresh</a>	
	Configured	Consumed since 01-02-2025	Remaining
<b>Processing Units</b>			
Monthly	30 000	198	29 802
Overage ⓘ	0	0	0
<b>Requests</b>			
Monthly	30 000	791	29 209
Overage ⓘ	0	0	0

## Bug fixes

- If a waypoint mission was stopped early, the app will now insert a waypoint at the point where the mission was stopped, so you can easily resume your mission. The segment between the drone and the new waypoint will be blue, so Ignis won't drop along it if you restart the mission.
- Implemented auto-takeoff and auto-land modes in the simulator
- De-synchronized the Gremsy Vio's Visible and Thermal zoom control, because a Vio bug would cause the thermal feed to flicker while it was zoomed in.
- Fixed the warnings when your waypoint mission is too long for the app to safety check for terrain collision. Increased how far the app will safety check from 50km to 5000km.
- Paired bluetooth devices that definitely aren't Ignis will not be displayed on the PAYLOAD SETUP screen.
- If you were streaming video from an unsupported camera while the projected video feed overlay was enabled, the app would get really slow. This is now fixed.
- The app no longer freezes if you generate waypoints for a nonexistent transect region with overshoot.
- If using multiple Freefly cameras simultaneously on an Astro (e.g. a7R + USB), the app would sometimes be mistaken about which video stream was which camera. This has been fixed.
- Fixed a crash if you look at the HUD before the app receives the zoom level from the Wiris Pro
- Prevent the app from crashing if the cache file contains a bunch of extra garbage bytes at the end
- Fixed the flight log entry view not moving to the correct location
- Fixed the strobe not showing up when viewing a log
- The offline map downloader will skip over tiles that the server reports a 404 code on
- Fixed the Wiris Pro projected video feed overlay not accounting for the cropping in some layouts.
- The app will now refresh parameter values if you modify them in the full parameter list screen or unrecommended parameter list screen.

## Version 3.5.0

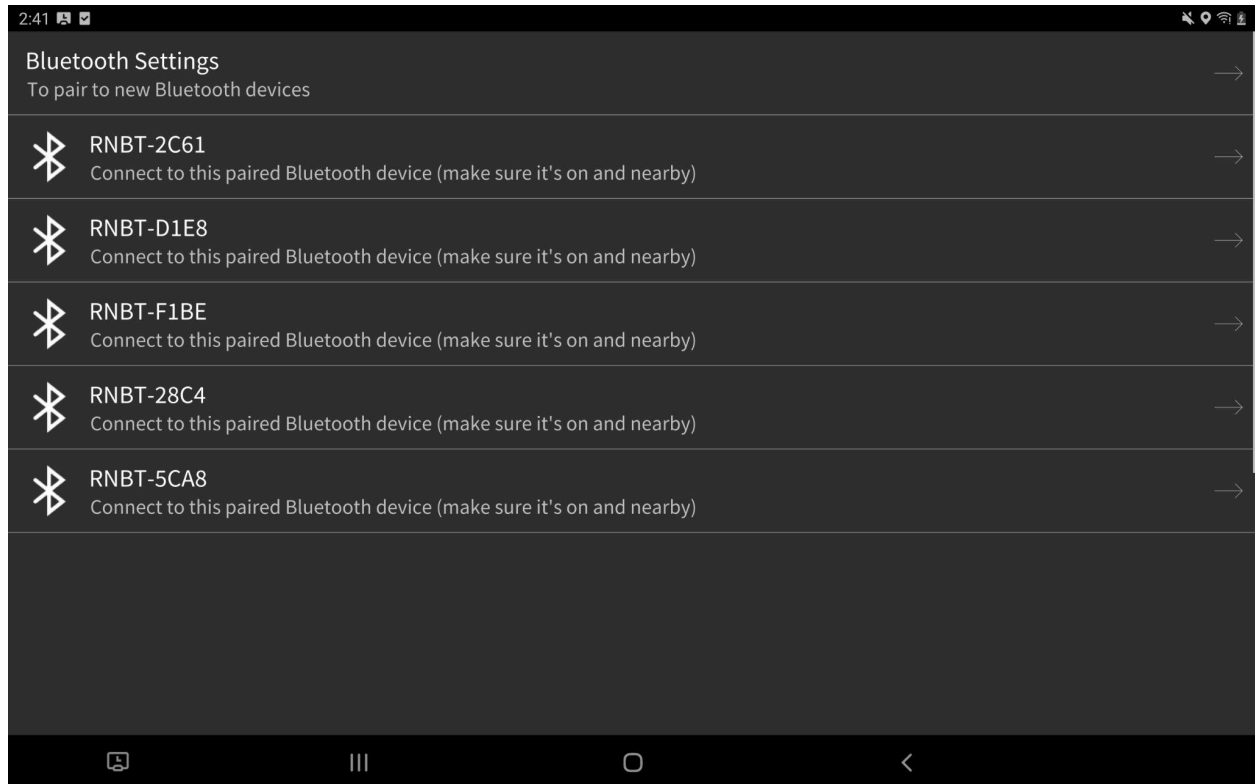
## 2025/1/29

## Ignis Setup via Bluetooth

You can now use DA Flight to setup Ignis via Bluetooth, so you don't need to have it connected to the drone or use the old Ignis Pixhawk app. To do this go to PAYLOAD SETUP, then press the



Bluetooth Settings button at the top of the page to open your operating system's bluetooth settings. From here you can scan for nearby Ignis's and pair your device to them. Once it's paired, go back to DA Flight, and it will display a list of all paired Ignis's, even if they aren't currently on or nearby.



Select the Bluetooth device name that matches the Ignis you're using, and it'll try to connect to it, which could take up to 10 seconds.

This works on both the Android and the Windows versions of DA Flight.

## FAA VFR Sectional basemap layer

There's a new basemap layer option that shows VFR sectional charts for the United States. The server doesn't serve sectional chart tiles for zoom levels below a certain point, so the app will display street maps when you're zoomed out, and sectional charts once you zoom in sufficiently far.



## More custom basemap options

A common problem with the ArcGIS Web map tile services is that they only serve images for a range of zoom levels and a small portion of the world, so you won't see anything until you zoom in on the correct location. Now, you can specify what range of zoom levels your custom basemap tile server supports, and have the app switch to one of the default tile servers when you're zoomed out further than that range. That way you can use the street or satellite maps to help you zoom in on the area your custom tile server has data for.

## Minor features and bug fixes

- Fixed a bug that would sometimes cause downloads to fail.
- The app will no longer try to download zoom level 17 for Alaska SPOT5 imagery, because the server only has images up to zoom 16.
- If you're using a MegaPixel FPV camera on your Alta X, you'll now see orientation lines overlaid on the video feed. You must specify in DA Flight what orientation you've mounted the FPV camera at.
- DRONE SETUP -> Advanced Config -> FPV camera orientation now applies to the MegaPixel FPV camera and to the optional FPV System for the Astro. You can now choose between Nose, Belly, or Gimbal mount, or a user-specifiable pitch angle relative to the nose.
- Support Vio control changes coming in the next firmware.

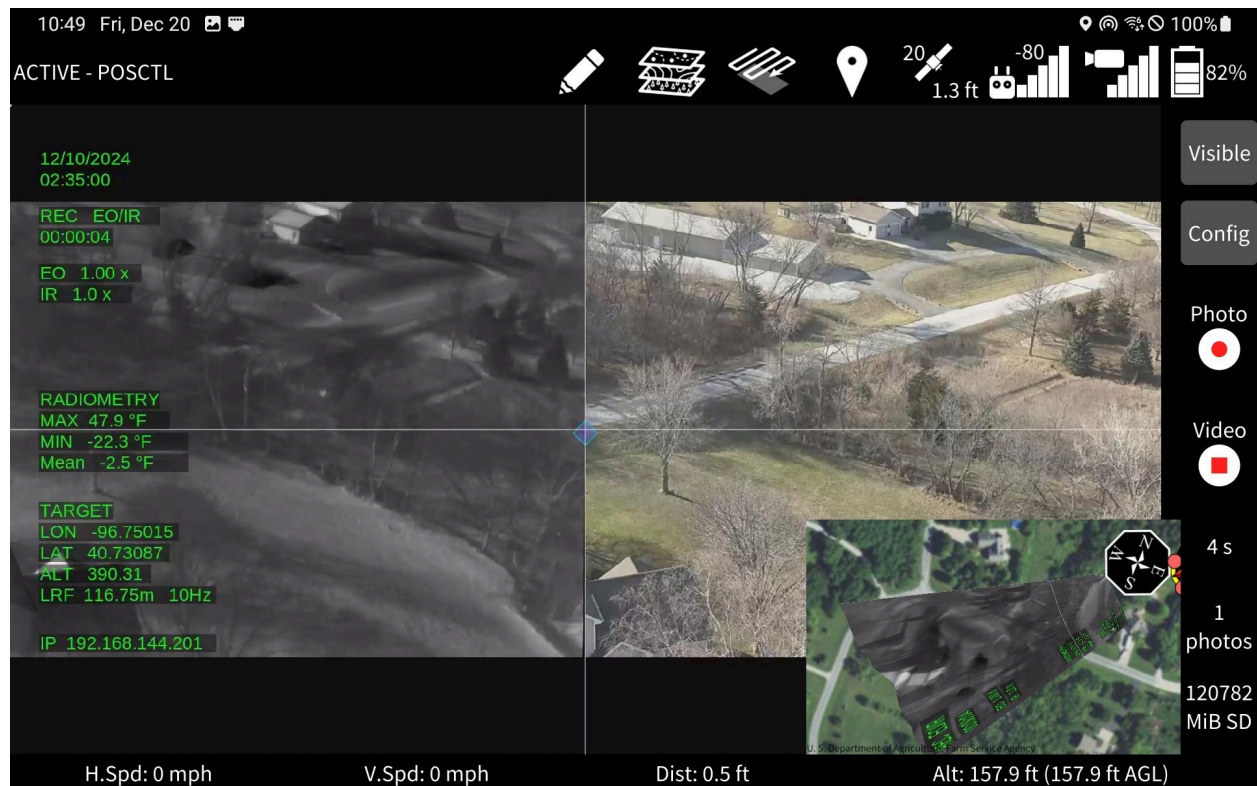
- Doubled the limit on how large of a pdf, kml, or kmz file the app will allow you to import (up to 200Mb).
- Updated LR1 camera config options for Astro firmware 1.9.2 (recognizes more aperture settings)
- Generating flight log briefs no longer competes for CPU time with parsing elevation data

## Version 3.4.1

2025/1/13

### Gremsy Vio F1 and G1 support

Gremsy has made a combined EO/IR camera and gimbal, and we've been working with them to integrate it into our systems so we can offer it as an alternative option for a radiometric thermal camera. This version of DA Flight brings our support for it up to a usable state.



DA Flight app features with the Vio:

- Control the pitch and yaw of the gimbal
- Switch between Visible and Thermal
- Start/stop recording video, shoot single and interval photos.
- Zoom in and out

- Read SD card capacity, Video recording timestamp.
- Configure some camera settings from the app. (Exposure, focus mode, thermal color palette, laser range finder settings)
- DRONE SETUP has a link to the camera's web user interface, where you can configure other settings. This can only be accessed from the pilot pro tablet, not from a device you're relaying to.
- Laser range finder distance will be displayed in the bottom telemetry bar.
- Export photo info and fmv csv files from the logs of flights conducted with the Vio

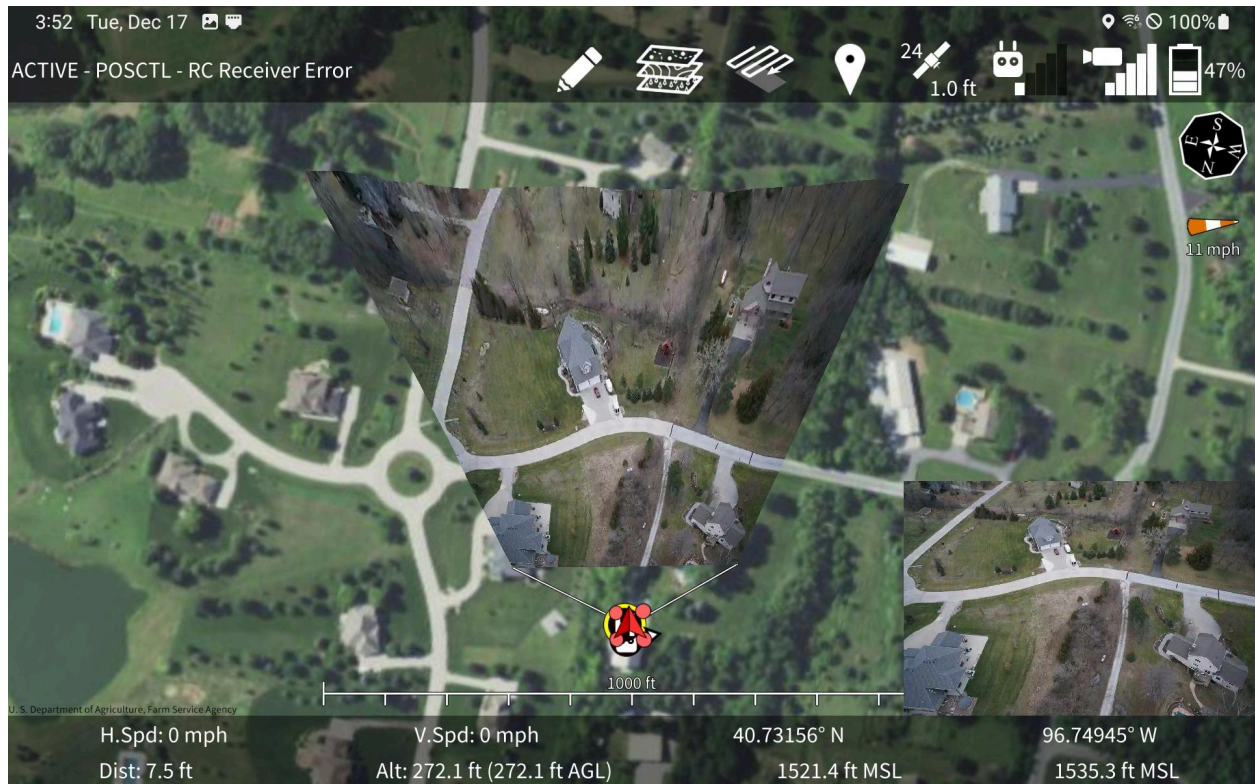
There are a few bugs with the current version of the Vio software (1.4.0) that we've been working with Gremsy to get fixed

- The Isotherms you can configure in the Web UI do not colorize the image correctly. Gremsy is working with us and FLIR to come up with a solution for this.
- Image count always reports 1 (will be fixed in next Vio software version)
- Rapidly changing camera settings or zoom level causes it to become increasingly laggy until you leave them alone for a while.
- Sometimes when you boot the Vio, its video feed is rainbow static. Power-cycle it to fix it.
- Zooming in will cause the IR video feed to flicker if JPEG + CSV is selected for the image file type. JPEG + CSV is necessary for the full screen hotspot temperature measurement.

## Projected video feed overlay

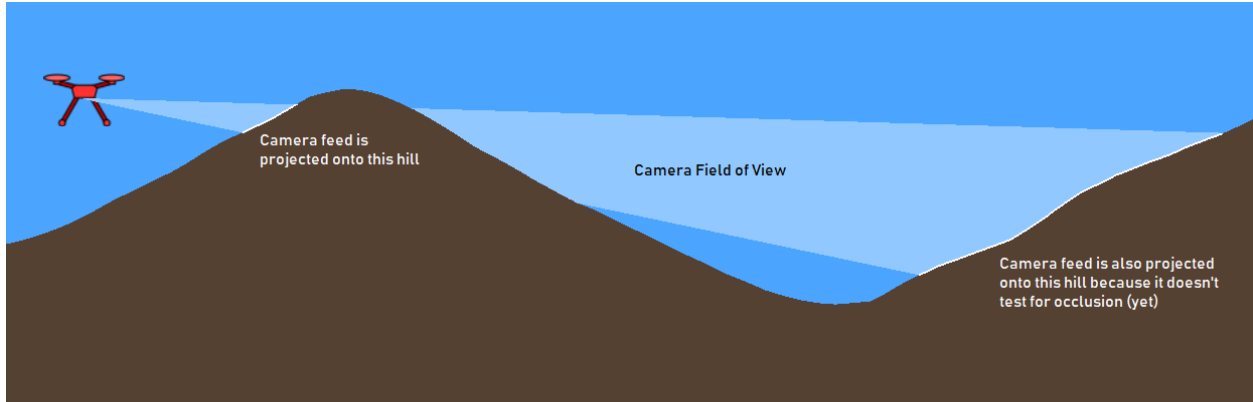
There's a new layer option in the layer list, which will project the video feed onto the digital terrain mesh, and then draw that projection on your map. This makes it easy to locate the things you're seeing in the video feed, and you can then mark their position using the pencil tool.





The accuracy of the projection depends on the accuracy of the drone's location, the camera's orientation, and the elevation map, which might differ with each flight. You can compare the overlay with features visible in the satellite imagery to get an idea of how accurate the projection is. For the best results, you should look perpendicular to the slope of the hill you're looking at, or downward if the terrain is flat.

If you look out across the terrain, the projection will look distorted and confusing for two reasons. First, small inaccuracies in the measurements of the camera's pitch yaw and roll will be compounded by distance and by how oblique the terrain is to the direction that pixel is sensing. Second, the projection currently doesn't account for occlusion, so you may see the same part of the feed projected to multiple points on the map.

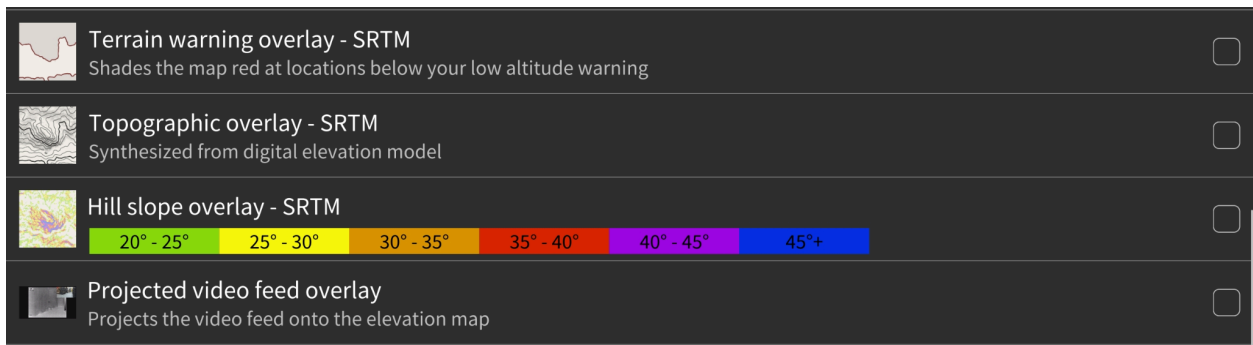


The overlay will end the projection 1 kilometer from the drone to limit how much computational work has to be done.

This overlay will work with all of the cameras we support, including the thermal cameras. The app will either project the thermal or the visible image depending on the mode the camera is in.

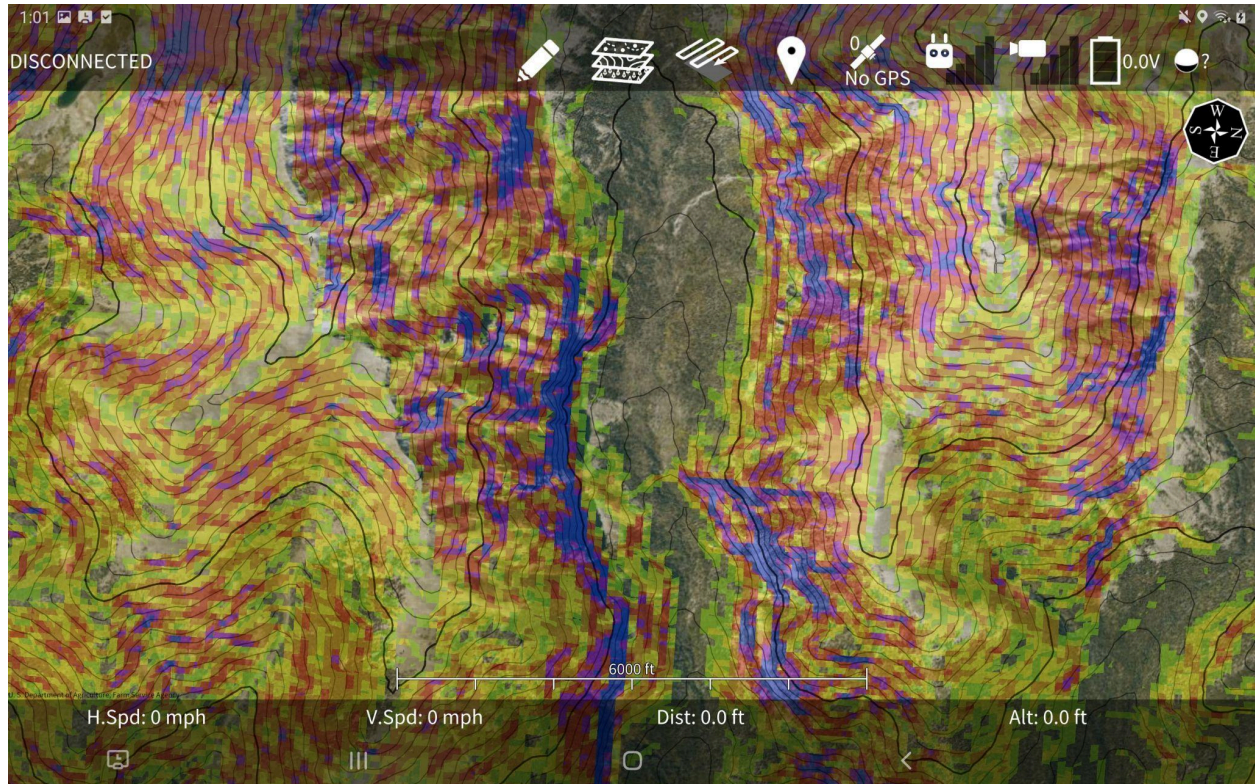
Some cameras support very high zoom levels, and it can be difficult to find the projected video feed when it's very small on the map. The overlay will also draw two lines from the drone to the bottom corners of the projected video feed so you can follow those out from the drone to find it.

## Hill slope overlay



There's another new overlay that shows how steep the terrain is. This is synthesized from the elevation map.





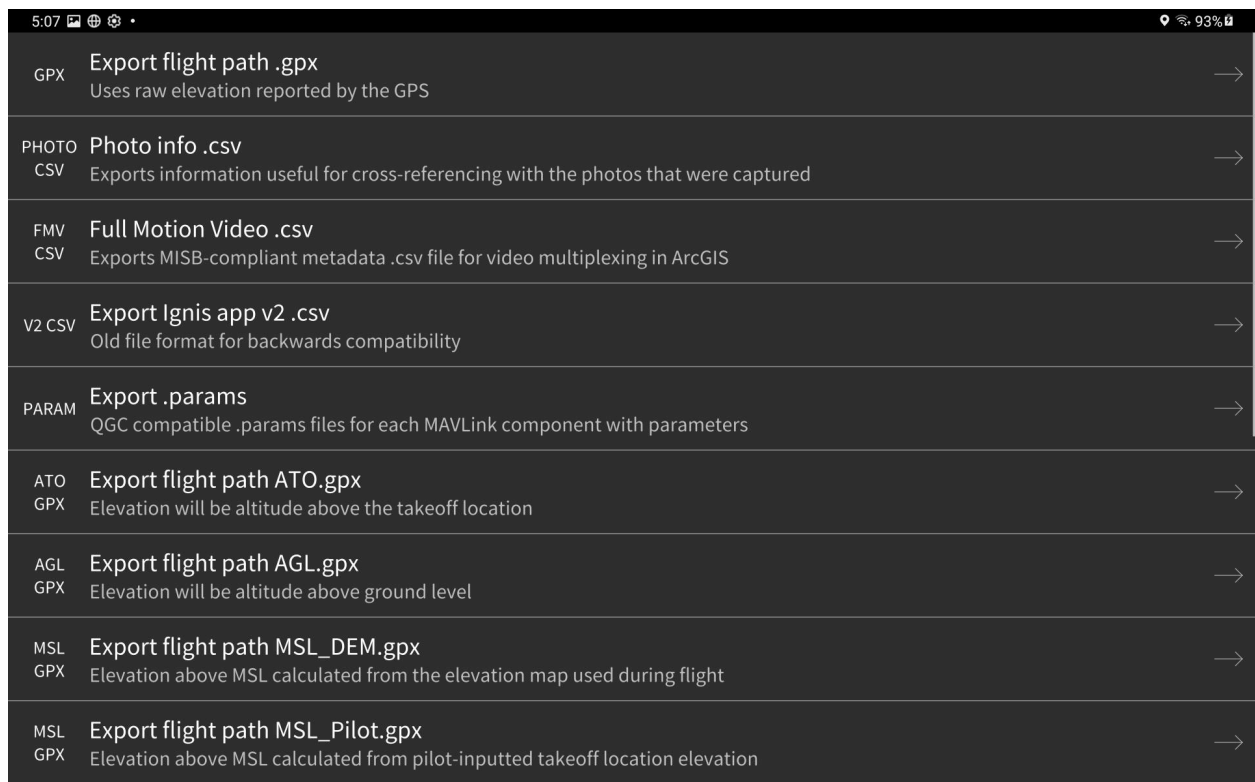
The app is doing a bilinear interpolation of the elevation data, which doesn't smoothly transition between grid squares of the data, so the coloration will look blocky. Also, the graphics processor struggles to calculate derivatives when you zoom in really far, so it'll look kinda fuzzy.

## Flight log export improvements

We moved the button for exporting flight logs again. It is now located at the top of the flight log list. Additionally, multiple flight logs in the same month are now grouped together to make it easier to scroll to older logs.



When you click the Export logs button, you'll be presented with a list of options for what kind of files you want to export from the dalog3 file.



New in this version is the option to export the old Ignis app v2 csv flight log format, so you can use that in any tool that currently uses that.

Once you pick a format to export, you'll be brought back to the flight log list, but now clicking on a log will queue it for export. Check all the logs you want to export and let the app do the work.



When all the exports are finished, click the "Click here to stop exporting" button that replaced the "Export logs" button, and you'll be able to view the logs again.

There are a few other bug fixes with the flight log export:

- Fixed a bug in which the photo info export would miss some photos
- Regular .gpx export now uses the drone's fused MSL altitude estimate, instead of the raw gps altitude. This combines the gps altitude measurement with measurements from inertial sensors to yield a more accurate estimate.
- Fixed a bug in which decimal numbers in the exported files would be rounded towards zero instead of rounded to the closest digit.
- Fixed a bug in which gimbal orientations of the a7R would sometimes be exported as extremely large, incorrect numbers.

- The FMV csv export now factors in how long the camera reports it has been recording for to determine when the video recording starts, rather than assuming it starts at the same time the app receives the first message indicating the camera is recording.
- The app will now load elevation data for the area of a flight log you're viewing if you're not currently connected to a drone, so you can see the topographic overlays.

## Minor features and bug fixes

- Added Astro and Alta X icons to the connection options so you're less likely to select the wrong one.
- If you bound zoom to a control, toggling the pitch control won't switch it to controlling zoom. This would happen if you were using the Standard Ignis Pilot Pro binding profile with a nose-mounted NextVision camera.
- Fixed a bug where if you were running the simulator, the simulated controller position would sometimes briefly move to your tablet's actual lat/lng.
- Added link to download Alaska elevation data. Zoom in on the area in Alaska you want to download, then click Download Current View in the top left. Uncheck all of the options except IFSAR DSM (includes buildings) or DTM (does not include buildings), and download it. Extract the .tif files out of the download and move them into Documents/Drone Amplified/Elevation Maps/.
- Made the topographic overlay a bit easier to see over satellite imagery

## Version 3.3.2

2024/11/21

- Fixed an app crash when viewing a flight log that used the Sony A7R4
- Alta X parameter validation would give a false positive warning about certain TC\_ parameters. It now checks to see that they are greater than 0.1.
- The Alta X with Pilot Pro with Silvus radio Mavlink connection option will no longer cause the app to send manual control packets, as the new Pilot Pro firmware can now do this on its own.

## Version 3.3.1

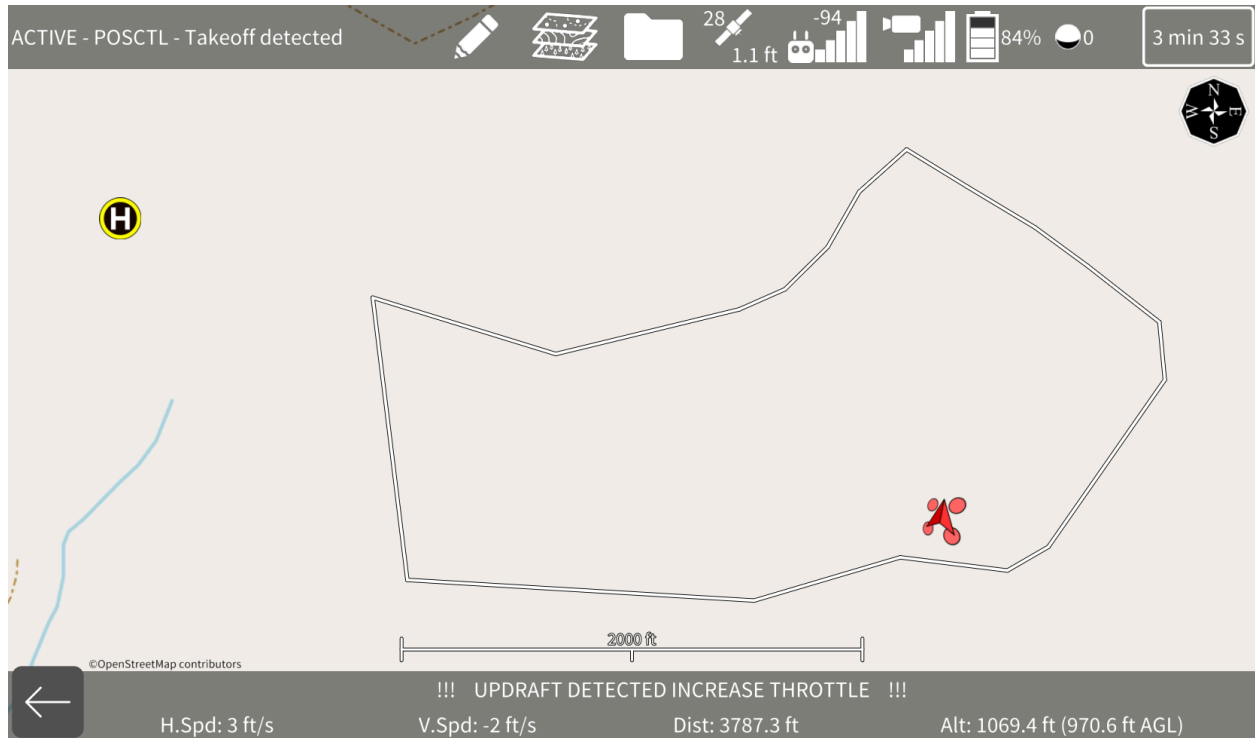
2024/11/4

Fixed the critical and emergency battery percentage being displayed incorrectly.

# Version 3.3.0

# 2024/11/1

## Updraft warning



We've discovered a problem with the Alta X's firmware that has caused a few to crash. The logic that detects when the drone has landed and automatically shuts the motors off can trigger if you're hovering in an updraft, which will cause the drone to shut the motors off mid-air and crash. This can happen even with a fully loaded drone. Freely is working on a fix for their Alta X firmware that will prevent this from happening.

In the meantime we've added a warning in the app that will display at the bottom of the FLY screen and play a warning sound when you're in a dangerous updraft. The specific conditions for the warning are: the drone is experiencing an upward acceleration, the motors are spinning at less than 20% on average, and the drone is more than 3 meters above the ground. If you hear this warning, you have about 5 to 10 seconds to increase throttle before the drone might shut its motors off. The sound the warning plays is similar to the sound used for the low altitude warning, so in both circumstances your reaction should be to increase your altitude. You can listen to the new sound in the Warning sounds screen.

## Astro wind speed and direction display



There is a new wind speed and direction indicator below the compass that displays a horizontal wind estimate calculated by the Astro's flight controller. It looks a bit like a wind sock. At 0 wind speed it is an orange circle, and as the speed increases it transforms into a longer triangle pointed in the direction the wind is blowing. Each stripe indicates 3 knots of wind.

The Alta X also calculates a wind speed estimate, but it estimates speeds 3 times higher than the Astro's estimate, so I do not trust nor display it.

## Standard Ignis Pilot Pro binding profile improvements

Somehow we missed adding a Vis/IR toggle to our standard Ignis Pilot Pro binding profile.

The R1 button will now toggle Vis/IR on a short click, or toggles recording video on a longer hold.

We're making new stickers to reflect this change.

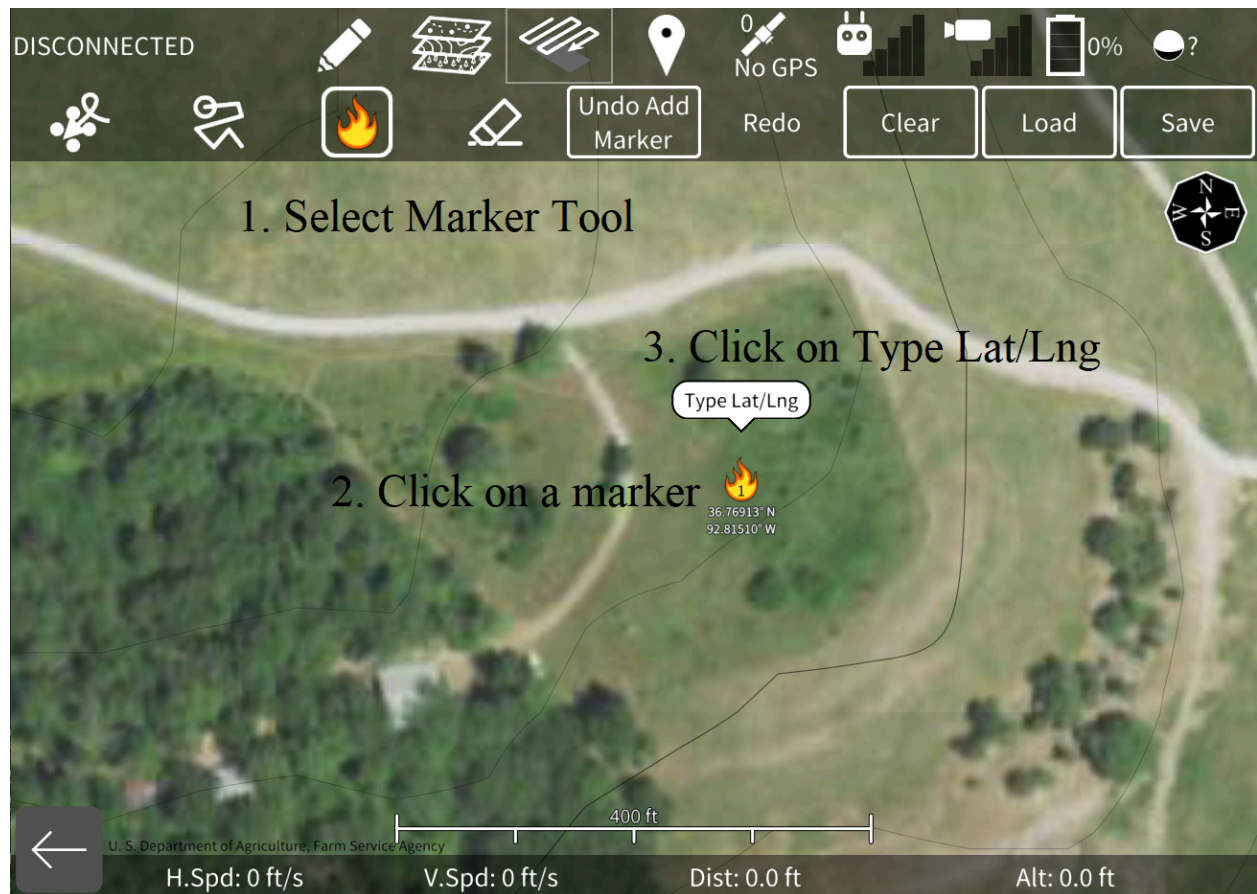




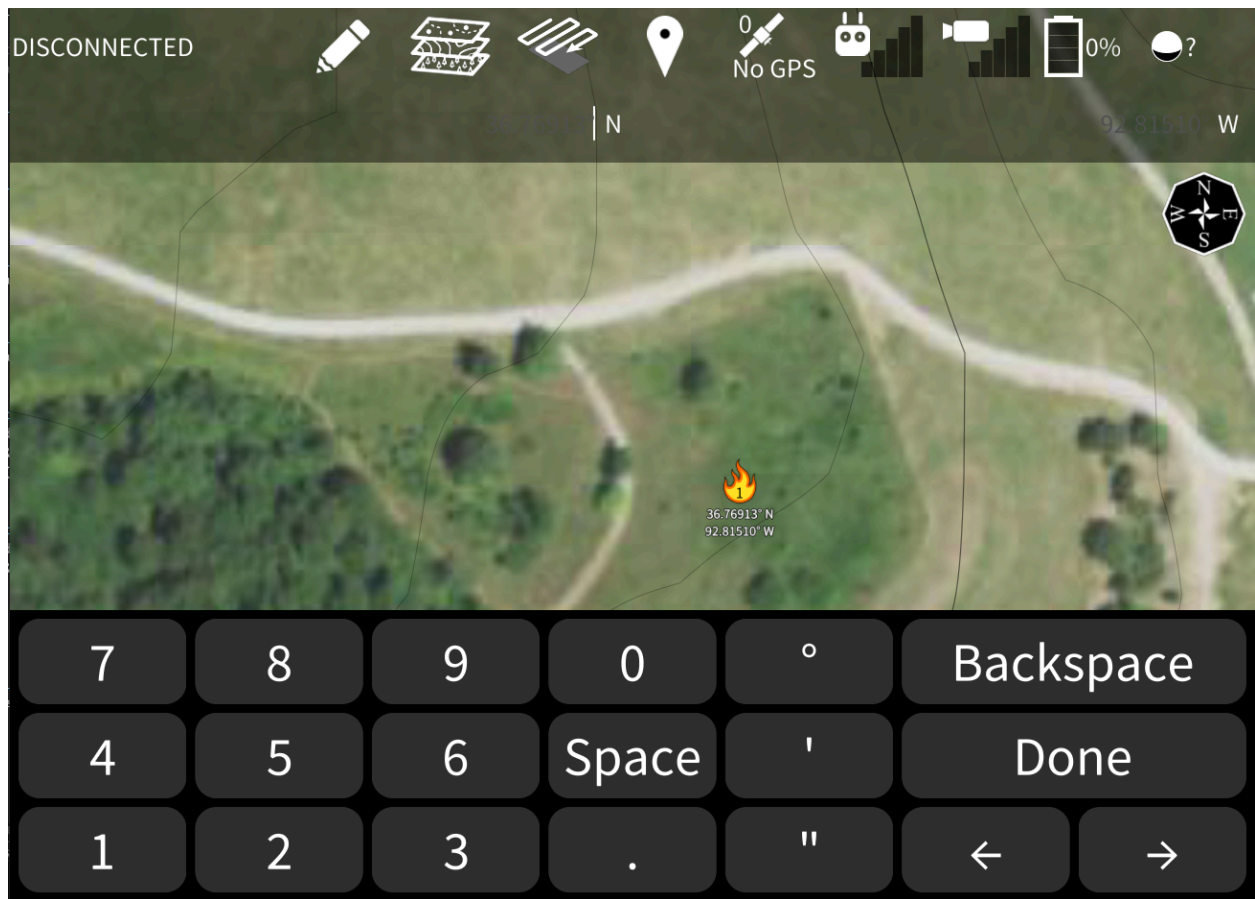
This functionality will also be applied to the D button on the Herelink or NW Blue controller.

Additionally we've added a "Standard Ignis (Pilot Pro) Visual Observer" binding profile. If you select this binding on your VO's tablet, the map/video will only toggle on the pilot's tablet when they press the button. The Pilot Pro tablet should continue to use the "Standard Ignis (Pilot Pro)" profile.

## Precisely position markers



You can now precisely position markers without having to zoom in and drag them. To do this you must have the marker tool selected. Then click on one of the markers and a bubble will appear above it that says "Type Lat/Lng", click this. Next the keyboard will pop up and you'll see input fields for typing the latitude and longitude you want to move the marker to.



Then you can type in the latitude and longitude you want to move the marker to. You can input the latitude/longitude in decimal degrees, degrees decimal minutes, or degrees minutes decimal seconds. It does not need to be the same format you've selected lat/lngs to be displayed in. If you don't want to bother typing in the °, ', or " symbols you can just separate the numbers with spaces and the app will assume it's in degree minute second order. The hemisphere is assumed to be the same hemisphere the marker is currently in, so there's no need to input negative numbers.

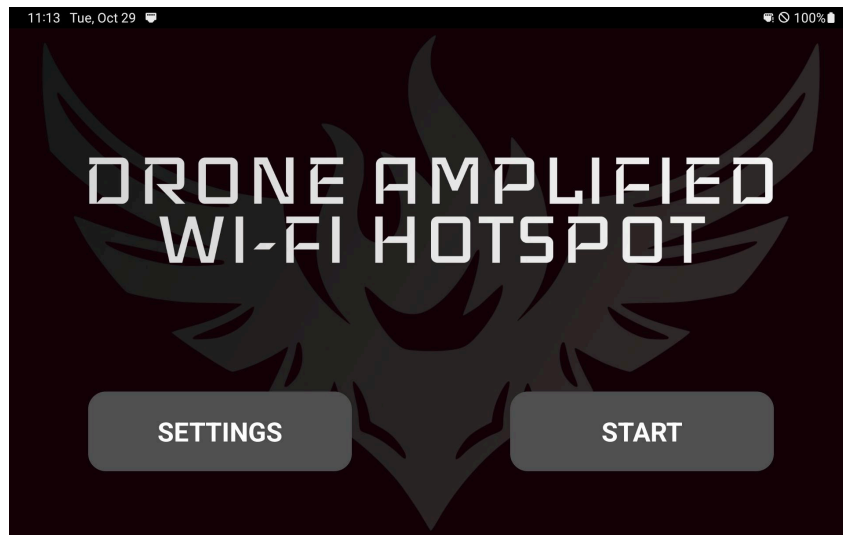
Once you're done inputting the latitude, click Done on the keyboard and it will switch to the longitude input field. Once you click Done on the keyboard after inputting both numbers, it will move the marker and return to the regular interface. Click any of the other buttons along the top before doing that to cancel the operation.

Additionally, when using the line or marker tool, you can now click on the drone icon on the map to place a marker or line at the drone's exact position. Useful for when you're hovering directly above a spot fire. While you have the pencil menu open, clicking on the drone will not toggle Chase mode.

## WiFi Hotspot Relaying

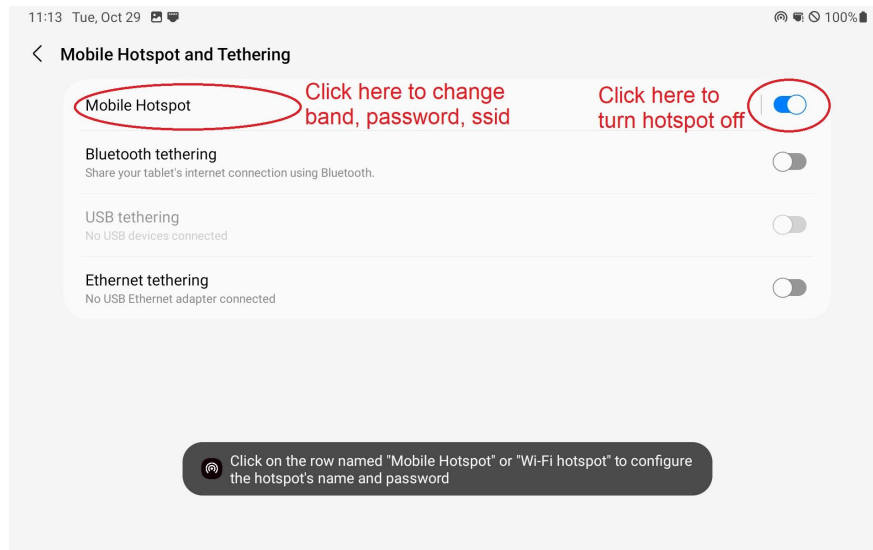
This version fixes some problems that would cause packets to be dropped when relaying over the Pilot Pro tablet's WiFi hotspot. We now recommend using WiFi for relaying instead of Ethernet, because it is much simpler to set up, and there's no cable that might come unplugged.

If you're using a Pilot Pro with a Tab Active 3, you must install our DA WiFi Hotspot app from here: [https://droneamplified.com/downloads/dawifihotspot/DA\\_WiFi\\_Hotspot\\_1.0.0.apk](https://droneamplified.com/downloads/dawifihotspot/DA_WiFi_Hotspot_1.0.0.apk)  
Install and run it. Give it permission to change system settings. Then press the START button to start the WiFi hotspot.



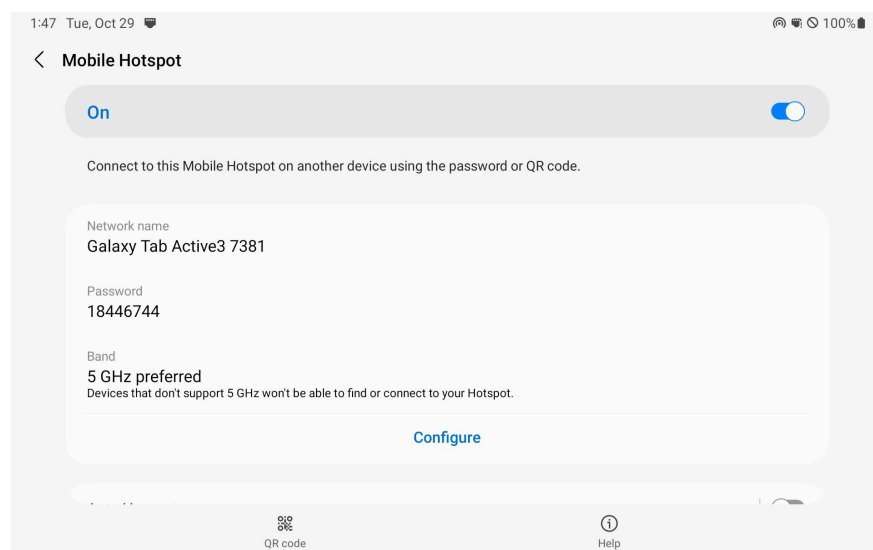
If this is the first time you're using the hotspot, you'll want to change what its name, password, and frequency band are.

The SETTINGS button will open the "Mobile Hotspot and Tethering" Android settings page. If you're using a newer Pilot Pro controller with a Tab Active 5, you don't need to install the DA WiFi hotspot app. You can reach these settings by opening the Settings app, then pressing Connections on the left, and scrolling to and clicking "Mobile Hotspot and Tethering" on the right. It doesn't hurt to install our app if you want to keep the same workflow on the Tab 5 as on the Tab 3.



The slider on the right will turn the WiFi hotspot on or off. If you're using a Tab Active 3, you'll get a "No SIM Card" error when you try to turn the hotspot on with this slider, which is why you need to start it with our app instead.

The tricky thing is that the words "Mobile Hotspot" are actually a button that will let you change the name, password, and frequency of the hotspot. If you're using a Tab Active 3, you may get an error when you click on it if the hotspot isn't currently running, so start the hotspot using the DA WiFi hotspot app, then click on it.

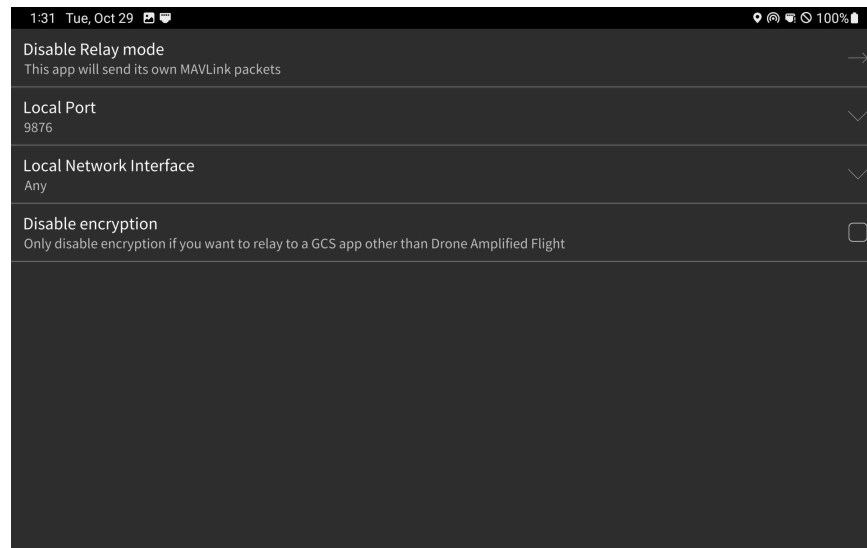


Click "Configure" to change the hotspot's settings. Set the name and password to whatever you want. Set the Band to 5 GHz preferred, because the drone's radios are 2.4GHz and there may be

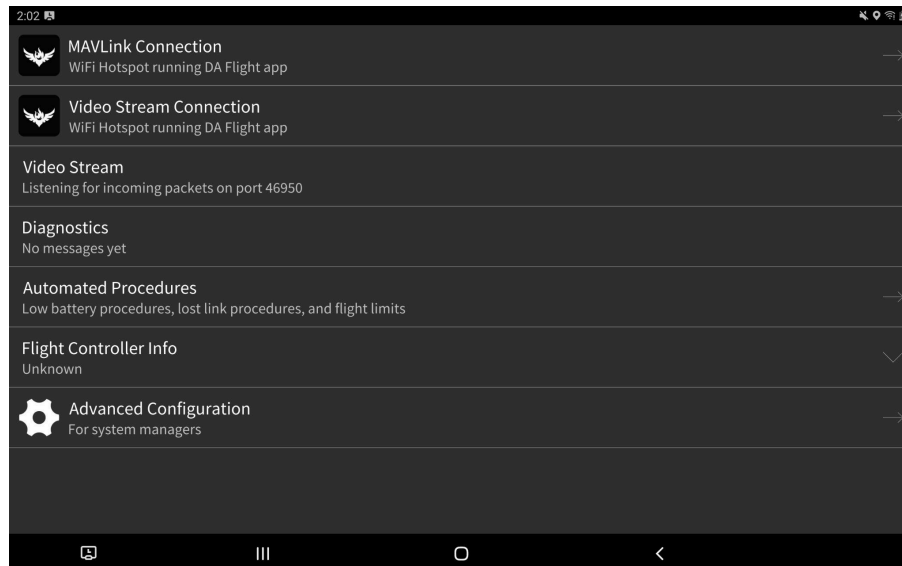
interference if they're both on 2.4GHz. I didn't see any when I tested at 2.4 GHz, but it may depend on how congested the bands are where you're at.

Once you've configured and started the WiFi Hotspot, you can close the DA WiFi Hotspot app.

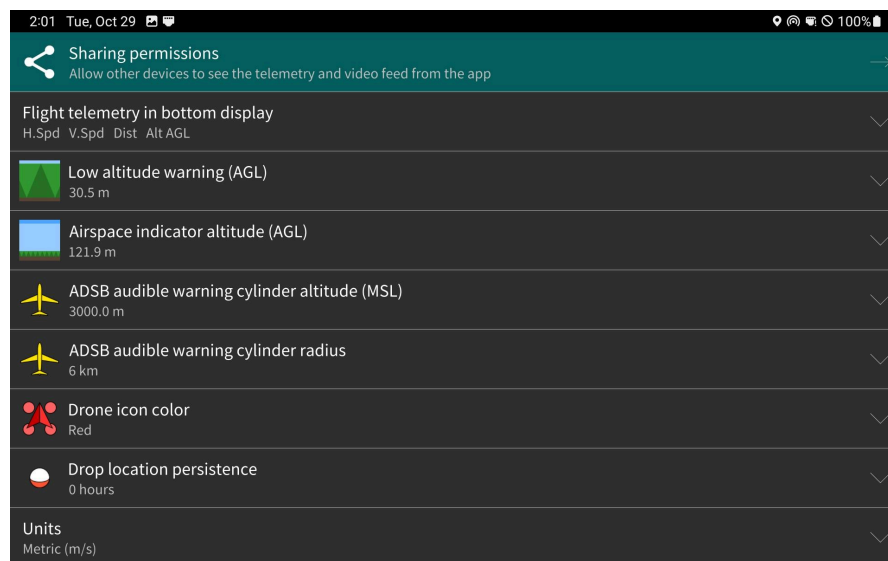
Launch DA Flight on the Pilot Pro tablet and check "APP SETTINGS"→"Enable MAVLink relaying". If you've already enabled it, instead you'll see "MAVLink relaying settings". The default settings will work, but in case you've changed them, you'll want to make sure the Local Port is 9876, the Local Network Interface is either "Any" or "swlan0", and encryption is not disabled.



Connect a second table to the Pilot Pro tablet's WiFi hotspot, and run DA Flight on that tablet. Click on DRONE SETUP, then set both "MAVLink Connection" and "Video Stream Connection" to "WiFi Hotspot running DA Flight app". This option will make the app attempt to connect to whatever IP address is hosting the WiFi hotspot, so you don't have to figure out the Pilot Pro tablet's IP address.

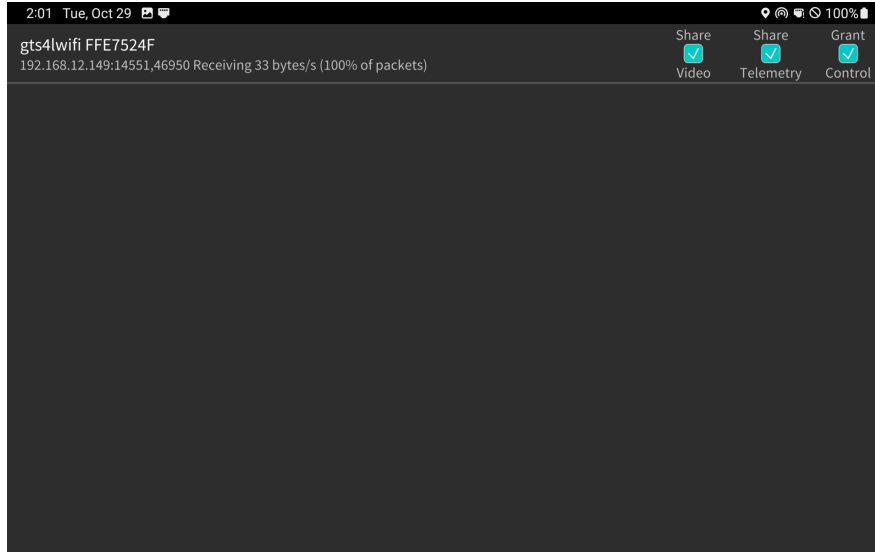


Once you've set these, there should be a new blinking blue button on the Pilot Pro Tablet at "APP SETTINGS"→"Sharing permissions".



Click on Sharing permissions and you'll see a row with the model and a unique ID of the other tablet. If you recognize it, you can share your video and/or telemetry streams with it, or you can grant it control. You can have multiple devices running DA Flight connected to the Pilot Pro tablet's WiFi hotspot, and manage what data you're sharing from here. Video uses a lot of bandwidth, so the network might only be able to support sharing the video stream to one device.





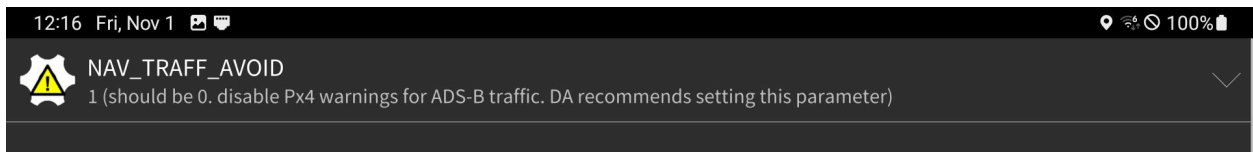
If you grant control, then it will be as if that tablet is the only one connected to the drone. The pilot will still have control of the drone via the sticks, but the other tablets will only be useful for displaying telemetry and video. Changing settings, setting a geofence, and uploading waypoint missions must all be done through the tablet that has control.

## Parameter logging and validation

DA Flight will now read all of the parameter values off your drone, camera, and gimbal, and save them in your flight log, which will help our support team diagnose issues with your drone if you share a flight log with us. There's new export options for saving the parameter values out in the .params file format.

If you know what you're doing, you can now change any parameter value on your system by going to "DRONE SETUP" → "Advanced configuration" → "Full parameter list".

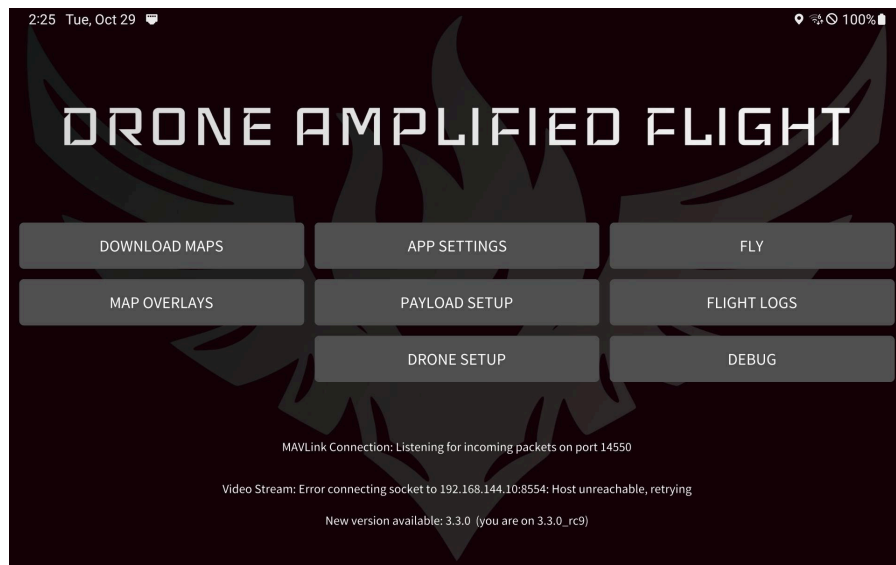
We've added some automatic parameter validation for certain parameters of the Alta X, and the app will now display a warning in Advanced configuration if some parameters have unrecommended values.



Some of them we recommend changing yourself to bring your Alta X up to our current standard values. Others might indicate a problem with your drone and you should contact our support team for help resolving it.

## Latest version checking

The app will now check our website for the latest version of DA Flight, and let you know if you're not on the latest. If you would like to download it, go to "APP SETTINGS"→"Download latest version". This page has links for the Android and Windows versions of DA Flight, as well as the Contrast app, which is a stripped-down version of DA Flight designed specifically for the Herelink controller.



## Minor improvements

- Low altitude warning will now have a visual warning on the fly screen, like in the Ignis app
- Display a message on the FLY screen when you toggle the binding for the gimbal control axis. Currently this only appears on the tablet that has control.
- Added Clear drop locations button to drop location persistence setting.
- Zoom controlled via a controller binding has been inverted and will now zoom twice as fast.
- If you're trying to download elevation data while you have a mission planned or the drone's GPS lock, you'll now see an error message.
- Automatically download SRTM elevation data for the area the user is viewing on the FLY screen if they are zoomed in and do not have a mission planned or a drone gps lock.
- Simplified strobe options. Reduced brightness of auto-day setting to prevent overheating.

- Simulated drone will begin armed if no controller is connected, so you can at least simulate flying waypoint missions if you don't have a gamepad.
- The ignition sphere counter in the top right of the FLY screen will reset to 0 after you take off. If you restart the app mid-flight, the counter will still be accurate.
- Play an alarming sound when switching to Manual mode.
- Updated a7R camera UI for Astro firmware 1.7.2.
- Implemented digital zoom control for a7R.
- Improved relaying feature to be able to handle packets reordered by the network, rather than just dropping some of them. Out-of-order packets will be delayed by at most 0.25s, in order to limit lag. You should no longer lose packets when relaying over the Pilot Pro Tablet's WiFi hotspot.
- When running the simulator on a Pilot Pro controller, pressing RTL will no longer cancel RTL. You must press POS.
- Contrast app will use a different Preferences.txt file to avoid problems if you install it and DA Flight on the same device.
- Basic support for Gremsy Vio and Freefly LR1

## Bug fixes

- Fixed a crash when saving a drawing with no lines.
- Flight logs were terminating early after about 9 minutes because Android would write the file out slower than I generated it. Sped up file writing on Android to workaround this.
- FLY screen map position persists if you leave the screen and return.
- If there are too many Ignis drop locations to draw them all on the screen, the app will only draw every Nth location, so you can still get an idea of the drop lines. Before, it would just draw the first 1000 or so drops visible on the screen.
- Fixed a bug that could cause significant relaying packet loss when sharing video and telemetry packets simultaneously.
- Fixed the app thinking Ignis dropped a bunch of ignition spheres if you restart the app after doing some drops.
- Fixed the flight log list counting ignition spheres dropped before the flight as drops during the log.
- Fixed incorrect behavior when performing a two-finger zoom gesture on the video feed
- Prevent the app from freezing if Android's video decoder freezes.
- Automatically reset Android's video decoder if it reports an error. Fixes "Error dequeuing output buffer: -10000" error.
- Waypoint heading mode was setting the wrong mode
- The switch feed button will no longer switch from Astro 1 to Astro 2 if you don't have an a7R/LR1 and a USB FPV camera connected.

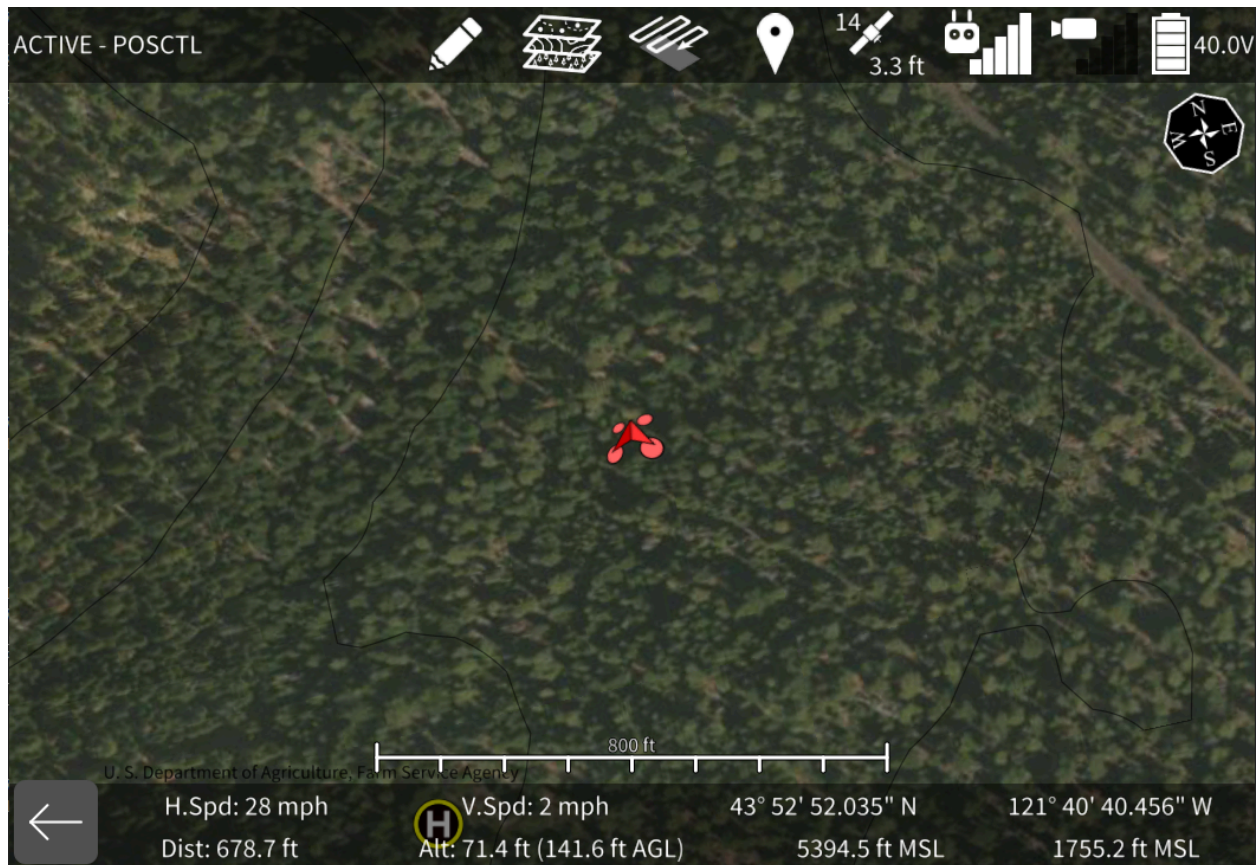
- Worked around an Auterion bug in which the exposure mode would report an unrecognized value after switching between photo and video mode on the a7R/LR1
- Fixed a green bar at the bottom of the video feed from some cameras on the Tab Active 5.
- Fixed a rare crash when the app is loading base map tiles.
- Fixed a pdf overlay parsing bug
- Fixed a kml overlay parsing bug when a polygon has no coordinates
- Exported kmz drawings with polygons will no longer use the default polygon style (opaque white fill).

## Version 3.2.1

2024/8/22

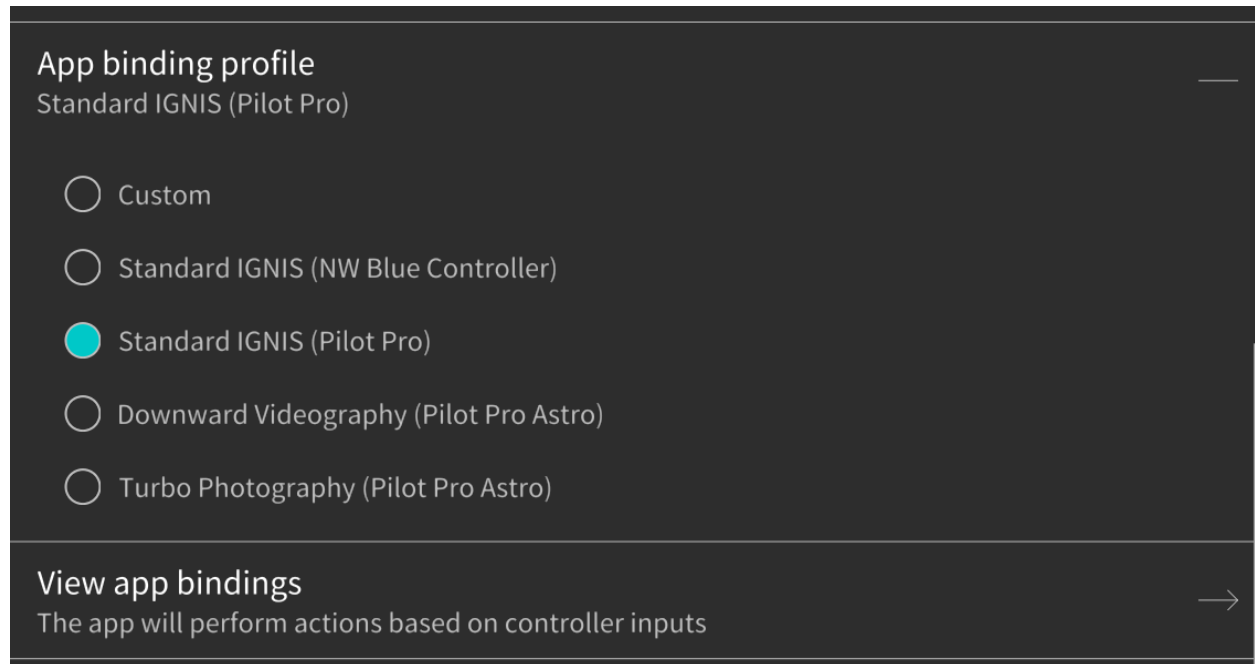
### Map Rotation and Chase mode

You can now rotate the map by twisting it with two fingers. Touch the compass in the top right to rotate it back so North is up. You can also touch the drone to have the map follow the drone and rotate with it. Scroll the map or touch the drone or compass to stop this mode.



## Standardized button and switch binding profiles

Instead of having one "Default" binding, we've now made different binding profiles to suit different controllers and payloads. If one of these profiles is selected, you can't change the bindings, but you can view them. If you switch to the "Custom" profile, you can adjust the bindings to whatever you want, like before. The initial bindings for the Custom profile are whatever profile you selected previously.



We designed these bindings based on feedback from our customers, so check them out and see which one best fits you.

As a side note, we discovered that when S1 on the Pilot Pro is in the down position, it inverts the left rocker. So, if you needed to invert your left rocker binding, check the position of the S1 switch. Freely will be releasing an update to the Pilot Pro firmware that removes this feature.

## Minor fixes and improvements

- Fixed a crash when saving a drawn kmz containing fire, smoke, or other markers.
- Drawn kmz files will show up in the layer list as soon as they are saved.
- You can now overwrite saved drawn kmz files.
- Updated a7R camera UI for the new options added in the latest firmware.
- Fixed a bug in which the photo info csv export option wouldn't export rows for most of the non-turbo mode images that were captured.

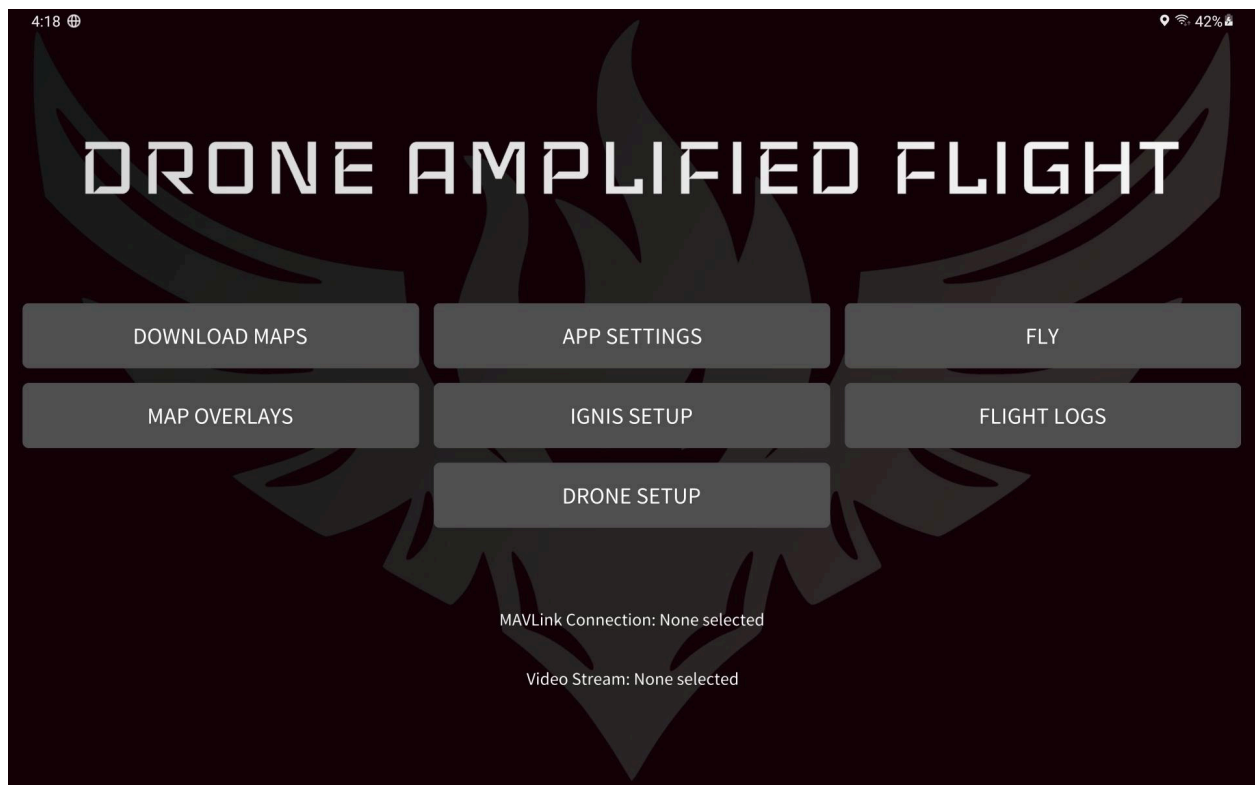
- Added part of the flight controller UUID to the name of the flight log files, so you can distinguish between logs from different drones.
- Simulated flights won't be logged by default.
- Fixed the Pixy U sometimes yawing the wrong direction and getting stuck at its physical limit if you recenter it while it's looking backward.
- Fixed some user interface problems on the download offline area screen.
- On text inputs that only expect a single line of input, typing a newline will finish the input instead of inserting a newline.
- Fixed topographic and terrain warning overlay graphical precision error on Tab Active 3 in high-elevation areas.
- Sped up flight log entry list view.

## Version 3.2.0

2024/7/12

### New name and look: Drone Amplified Flight

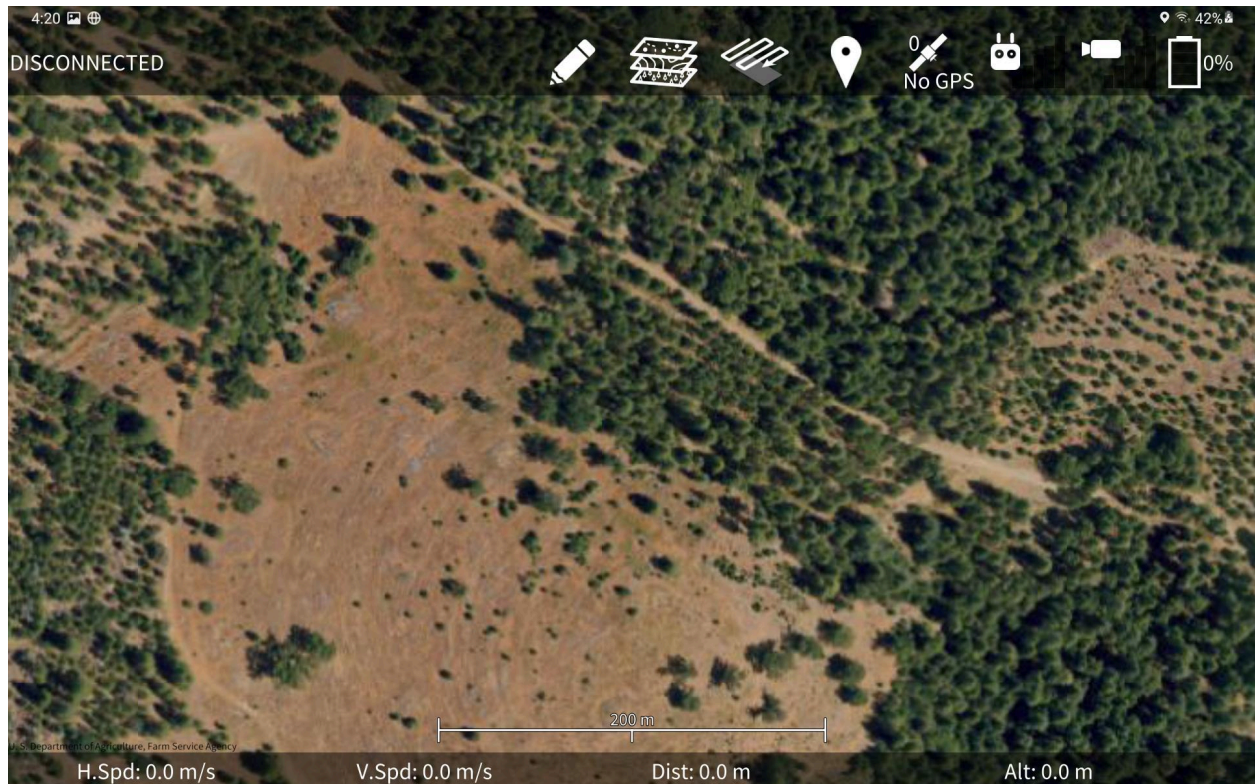
We're changing the name of the app to disambiguate it from Ignis, the payload, and to reflect that it doesn't necessarily need to be used with Ignis. You can call it DA Flight for short.





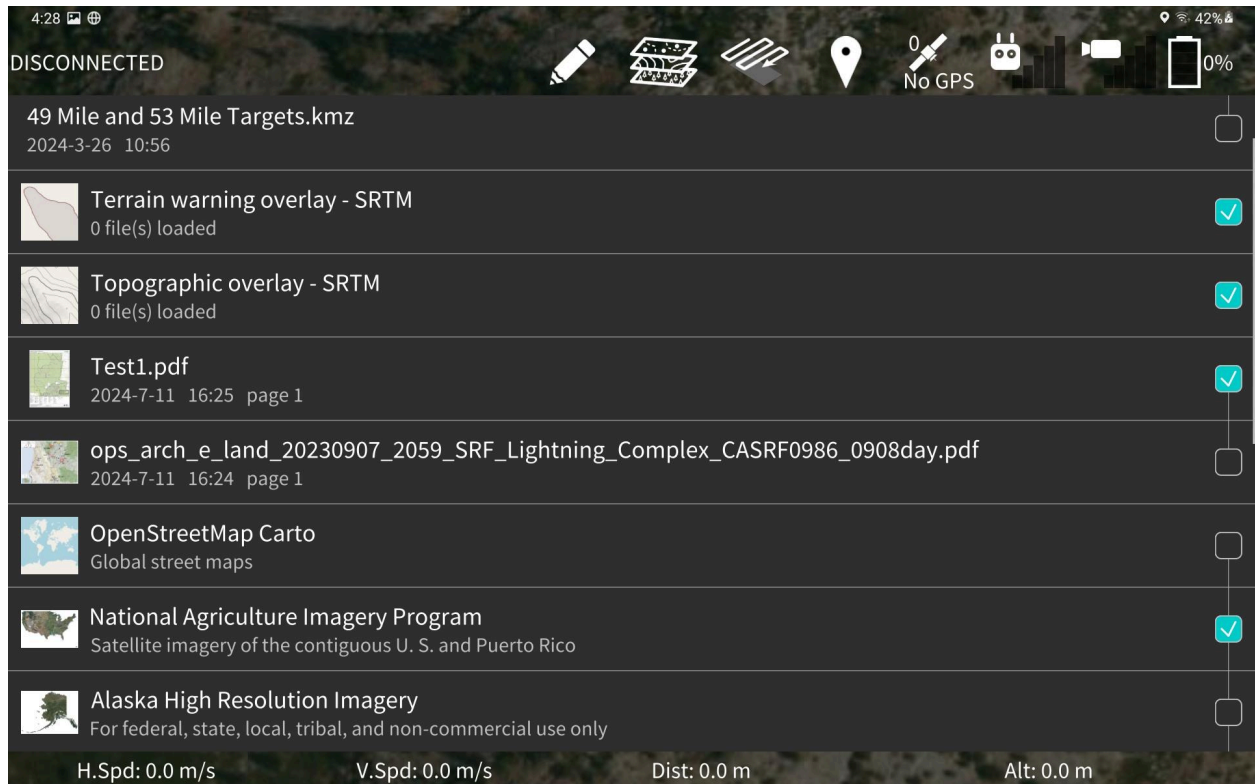
This version won't overwrite the previous version you have installed, so you'll need to manually uninstall the Ignis app after installing this version. Otherwise, you might be running both simultaneously and they'll compete for connection to the drone.

## U.S. Satellite imagery base maps



You can now view satellite imagery for the contiguous U.S., Puerto Rico, and Alaska. This can be accessed through the new "Map Layers" icon in the top of the FLY screen that replaced the Folder icon.

When you click the Map Layers icon, you'll see a list with all the kml, kmz, or pdf overlays you've imported. At the bottom, you'll see new options for different basemaps.



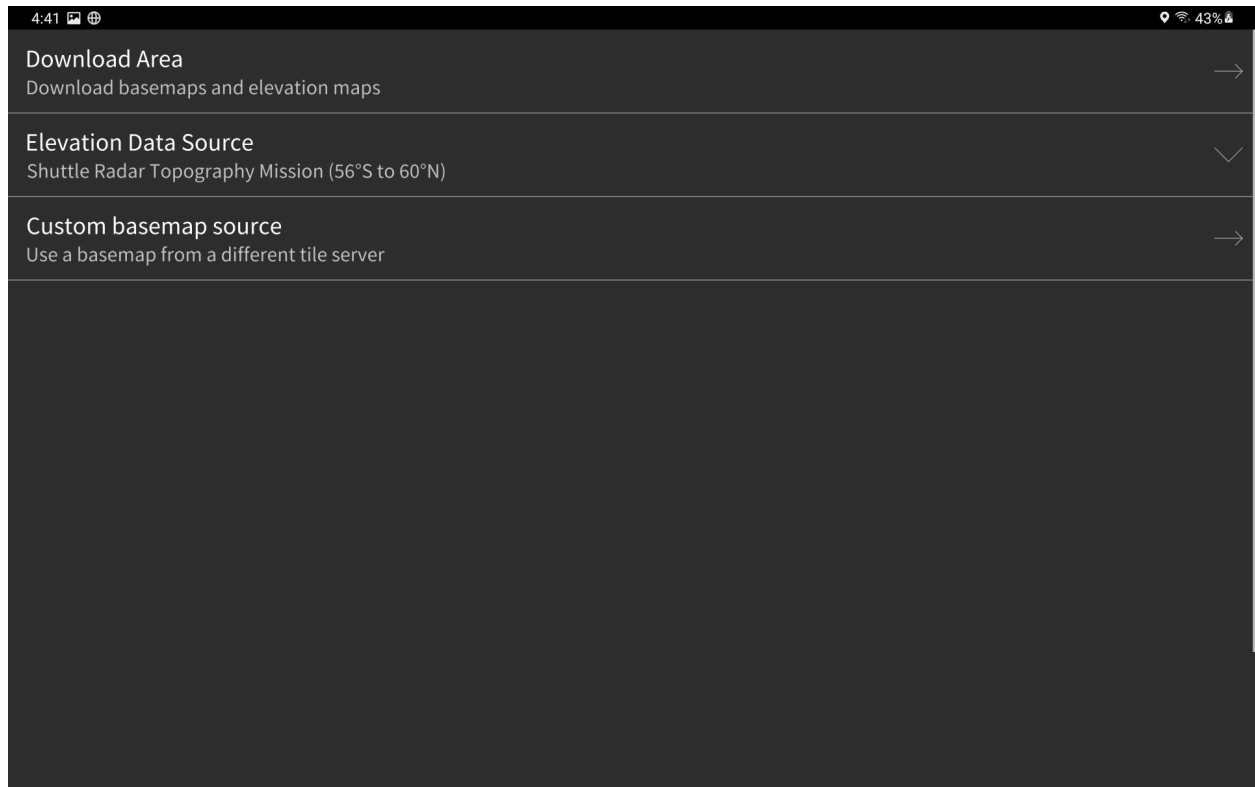
You can check or uncheck different layers to combine them together. However, you can only view one basemap at a time, at most one pdf overlay, and at most one kml/kmz overlay simultaneously. The vertical lines connecting the checkboxes indicate which options are mutually exclusive.

Saving and loading missions is now reachable through the Folder Icon visible when editing your transect region, waypoints, or geofence.

When you're viewing a flight log, you can export it to different formats by clicking the timer in the top right, then clicking "Export".

Note that usage of the Alaska imagery isn't allowed for commercial operations.

## Area offline map download

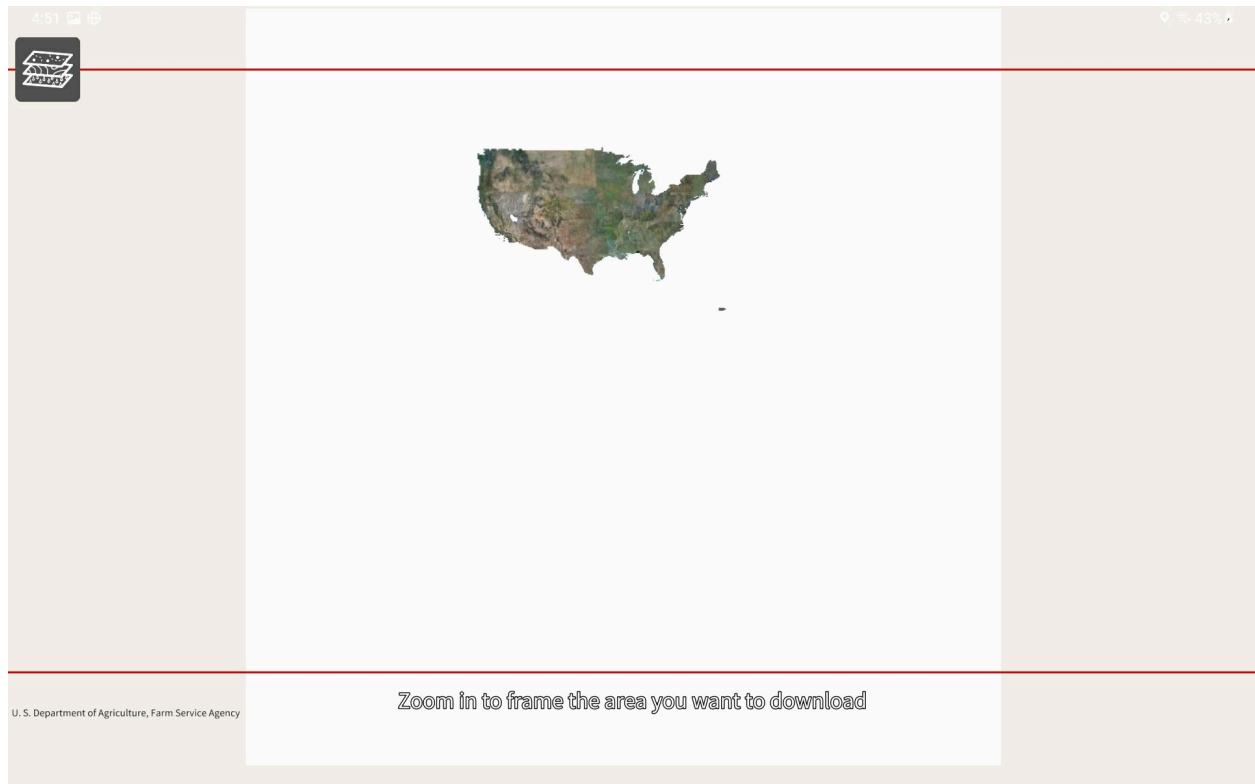


There's a new "Download Maps" button on the main screen. Clicking it will take you to a new screen.

In v2 of the app, this screen would show you the regions you've previously downloaded and let you delete them to free up space. In v3, there's no limit to how many tiles you can have downloaded for offline usage, so you don't need to delete the old ones all the time. If you're about to run out of storage space on the tablet, in which case you can delete the Drone Amplified/Tile Maps/ folder and redownload the areas you care about.

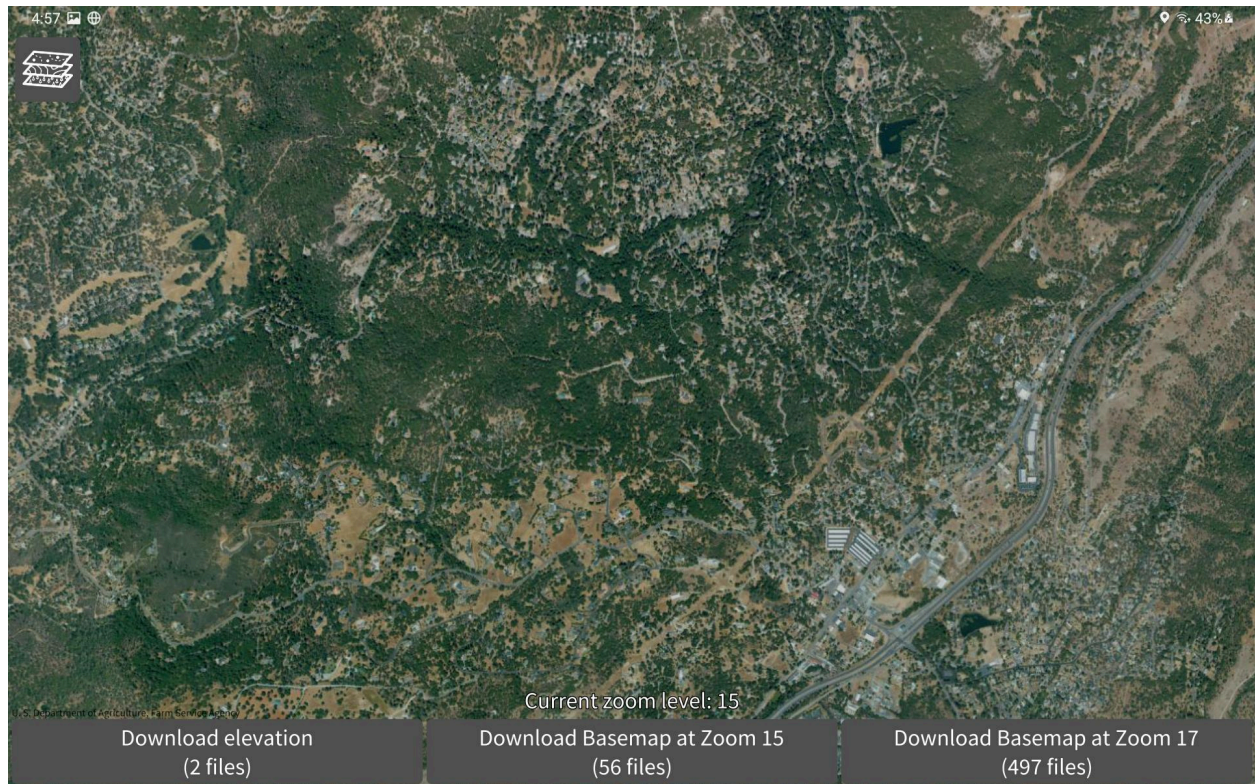
The ability to switch elevation maps has moved here. Additionally, there's a new Custom basemap source option which will be discussed later.

Clicking on the "Download Area" button will take you to a view of the map. You can click the layers button in the top left to show different overlays and switch basemaps. The red lines indicate the North and Southern extents of the Shuttle Radar Topography Mission elevation data.

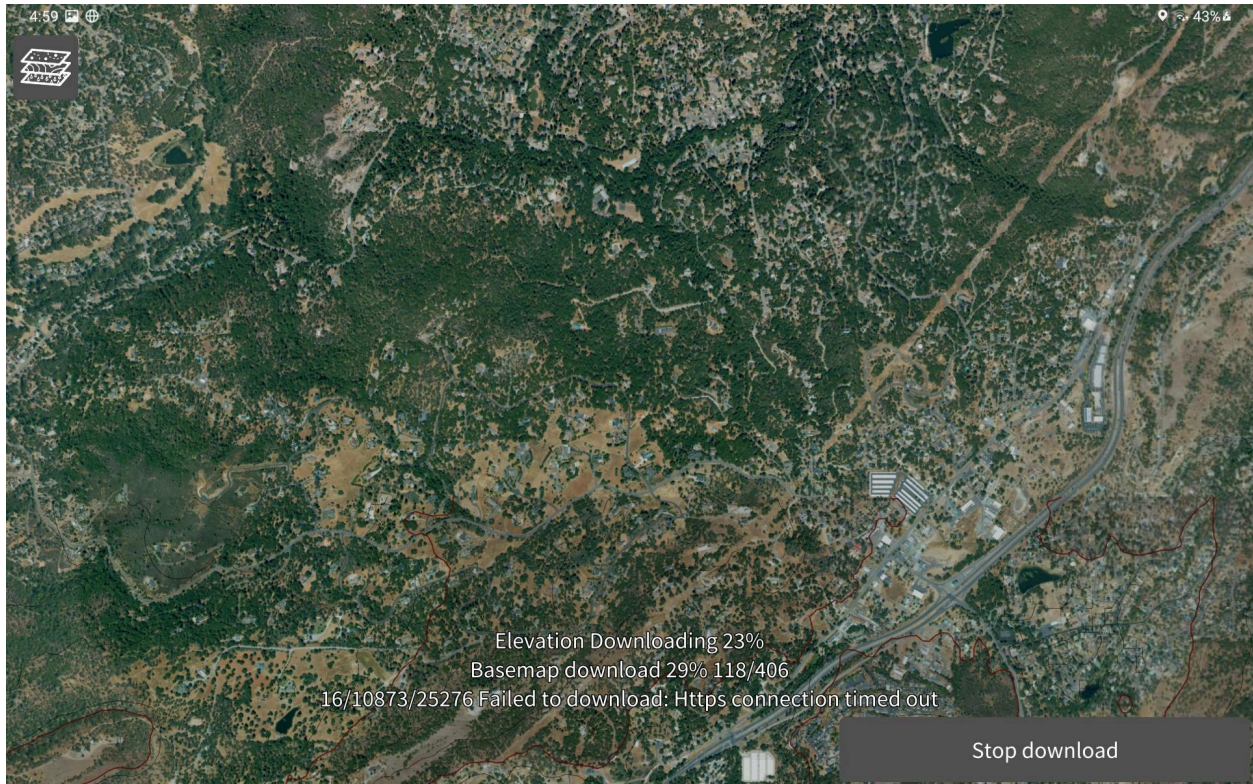


Use the Layers button to select the basemap you would like to download for offline usage, then zoom in on the region you would like to download. If you select an overlay, it will automatically zoom in on that overlay.





Once you've zoomed in far enough, you'll see up to three buttons appear at the bottom, depending on how far you've zoomed in. The "Download elevation" button will download SRTM elevation data for the region you're viewing. The other two buttons will download basemap tiles up to different zoom levels. They're like the "SD" and "HD" buttons in v2, but with a more well-defined meaning. You can download elevation at the same time as you're downloading basemaps.



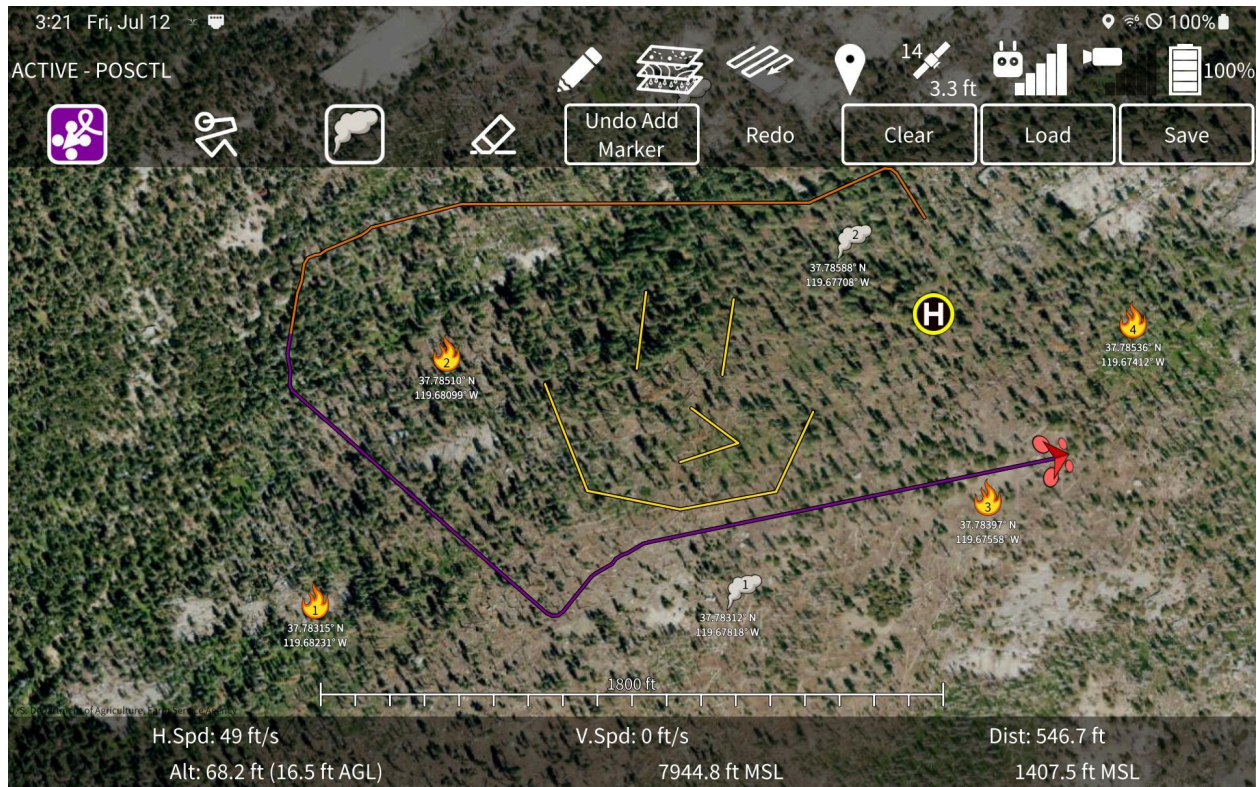
If you get an error message about one failing to download, don't worry. The app will retry the download until it works. Once it reaches 100% and says Download complete, you know you've gotten all of the tiles.

If you press Stop download, this will cancel the basemap download and return to displaying the region you're currently viewing.

There's no indication of what areas you already have downloaded, other than attempting to download the area again and seeing if it completes. The app will first attempt to load the file from the tablet before it downloads it from the internet.



## Drawing Tool

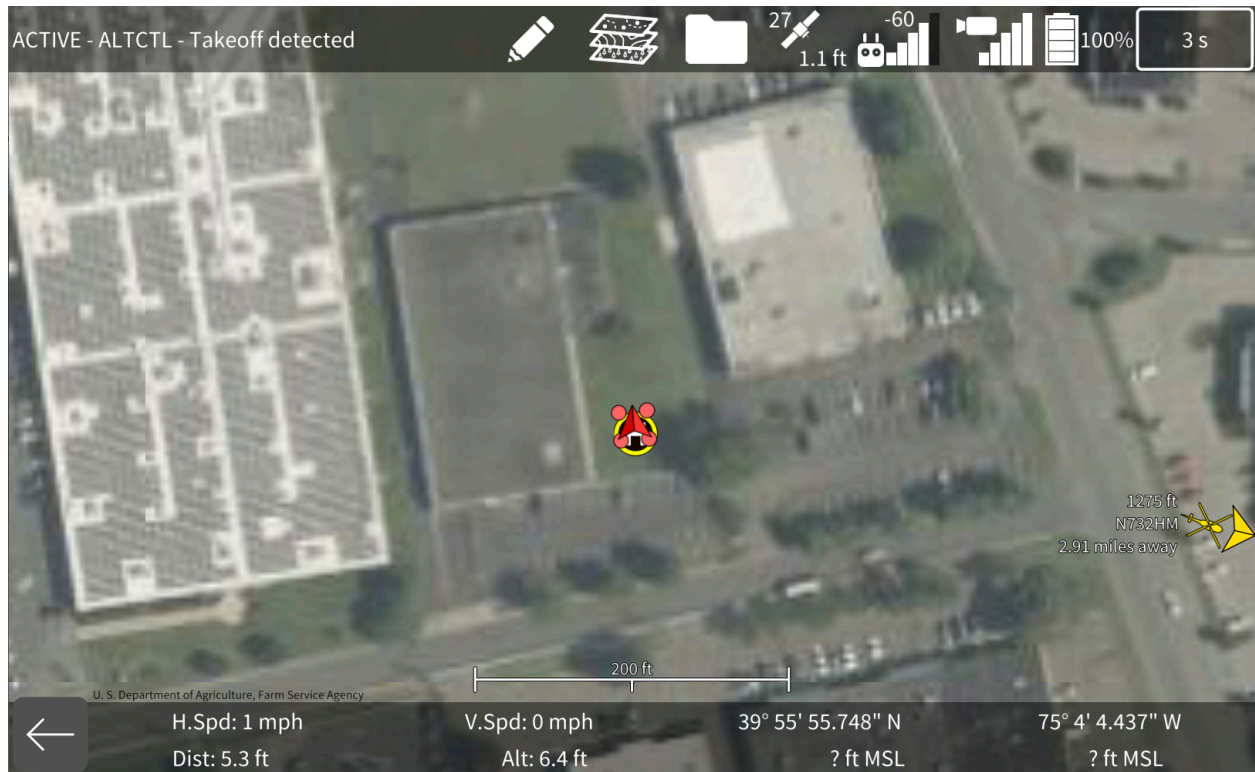


The drawing tool has been implemented like it was in v2, so read section 7.18 of the manual (<https://droneamplified.com/downloads/IgnisManual.pdf>) if this is new to you.

There are a few minor differences between the implementation in v2 and v3:

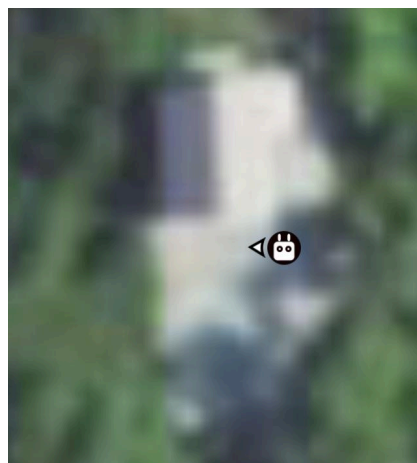
- There is now a "Clear" button to erase the whole drawing, whereas in v2, you had to load a blank drawing.
- Drawings are saved in the "Drawn Kmzs" folder, instead of "Exported Kmzs" folder
- Your drawings don't automatically appear in the map overlay list.
- Thumbnails previews will be implemented

## ADSB Warning Improvements



Aircraft within your warning cylinder will now be persistently displayed along the edge of the screen, along with a horizontal distance to the aircraft. Helicopters now have a unique icon.

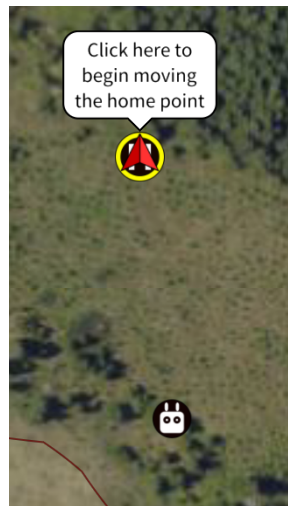
## Tablet position and orientation displayed on map



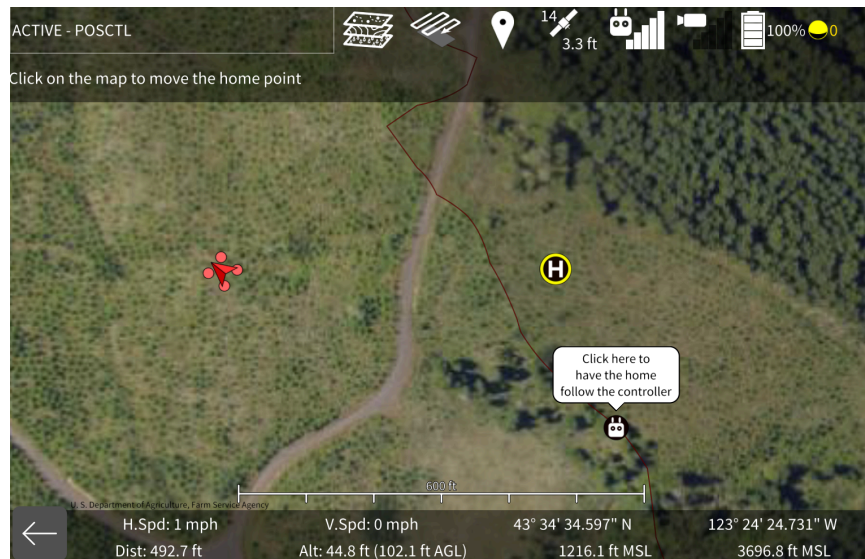
The app will now request the location permission when it starts. If you grant it, it will display the tablet's position and orientation on the map, as shown above.



## Movable Home Point



You can now change the Home position of the Alta X and Astro, if you would like it to return to a different location when it returns to Home. To do this, click on the home point on the Fly Screen when no other menus are open, then click the bubble that appears above it.



Once you've clicked it you can click on the map to move the home position there. You are not allowed to move the home point if you do not have elevation data for the location you are moving the home point to, or if the drone is flying a waypoint mission or returning to home.

When you move the home position, the app will use the elevation map to figure out the new home position's elevation. The drone's altitude will be measured relative to this new elevation. The altitude above the takeoff location that gets displayed in the bottom of the Fly screen is actually the altitude above the home location, and that value will change when you move the home point. This

altitude is what the drone uses for its return to home altitude setting, so it will ascend to that many meters above the new home position when it returns.

The altitude above ground level and above mean sea level will stay the same after the home point moves. However, you might see a brief jump when the drone starts reporting its altitude relative to the new home point, but before it has confirmed that it is now using the new home position. This might cause the low altitude warning sound to play, but this can be safely ignored.

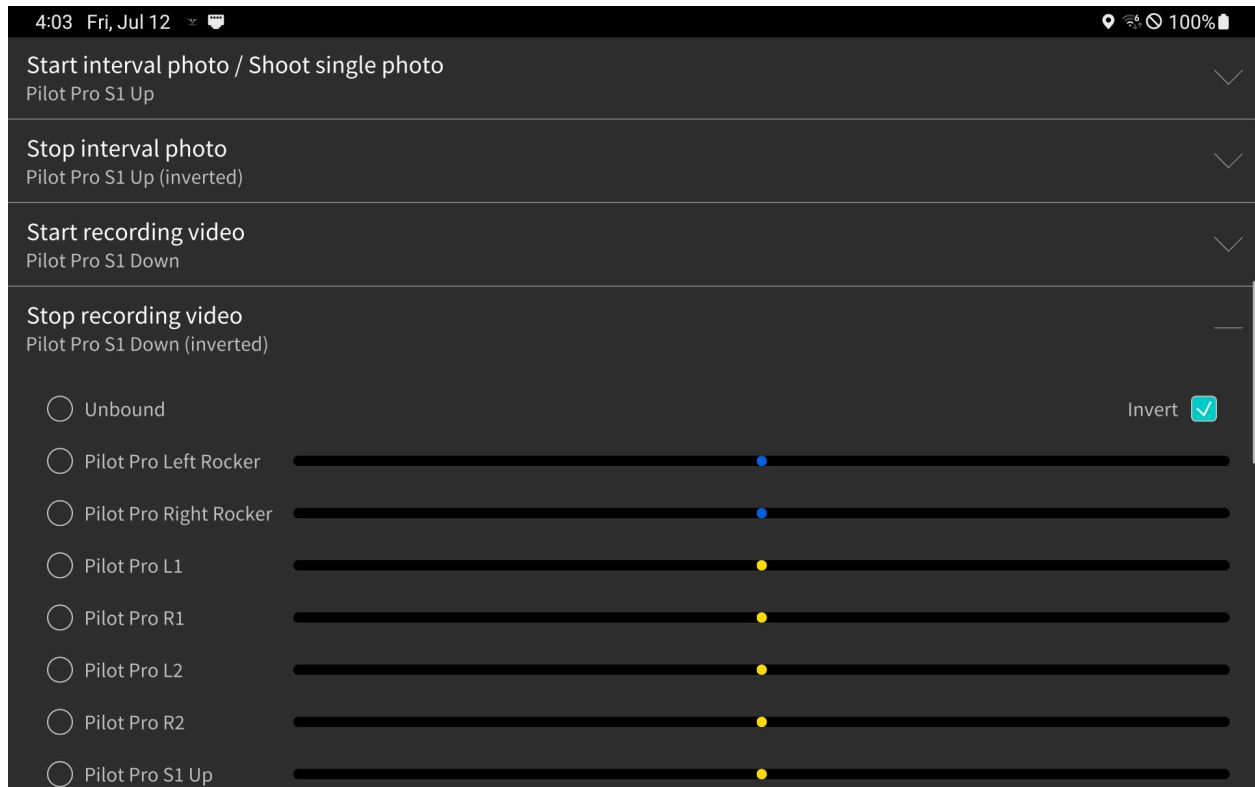
Another feature is that you can have the home position follow the tablet. This is useful if you are controlling the drone from a moving boat. When this mode is enabled, the home point and the controller will be chained together.



The home location will be moved to 5 meters from the controller, in the direction of the drone. The app will automatically update the home point if it needs to move more than 4 meters.

The Astro has a bug with starting waypoint missions after moving the home position. You'll get a "Temporarily rejected" error for up to a minute after moving the home position. So, don't rely on being able to start a waypoint mission with the Astro after moving its home point. We'll keep investigating this bug and see if we can work around this.

## New start/stop photo/video button binding system



You can now bind functions to the S1 and S2 switches on the Pilot Pro, and it can be nice to have a switch control whether or not you're recording video, rather than a toggle button.

To accomplish this, taking photos, and recording video are now 4 separate bindings, making it more flexible and complicated. Currently, interval photos are only supported on the a7R.

If you want the old functionality of a toggle button, you can bind both Start and Stop to the same button, and it will send the appropriate command for the current mode.

If you're using the a7R, you can bind all 4 to the same button, and it'll either take photos or videos depending on which mode the camera is in. Otherwise, the Start Photo/Video binding will attempt to switch to the appropriate mode when it is triggered.

If you bind start and stop to different things, the app will periodically send the start or stop command while the control is active, to ensure that the message is received even if the radio drops one of the packets. While the control is active, you cannot use the on-screen button to start or stop.

The S1 and S2 switches are 3-position switches, so you'll see bindings for Up and Down for each switch. If you invert one of them, the binding will trigger in the Middle and opposite position. So, you can have one switch that controls both photos and video by binding:

- Start Photo: S1 Up
- Stop Photo: S1 Up (inverted)
- Start Video: S1 Down
- Stop Video: S1 Down (inverted)

If you move the switch up, the camera will take a photo, or begin taking interval photos, and stop recording video. If you move the switch down, the camera will stop taking photos and begin recording video. If you move the switch to the middle, the camera will stop doing both. However, with this binding configuration, you cannot use the on-screen button.

You can also now bind things to A1 and A4 on the Pilot Pro, but these might already do something on your drone, so don't bind to them if that is the case.

## Custom Basemaps

Drone Amplified Flight

Name  
osm-liberty

URL  
https://maps.geoapify.com/v1/tile/{name}/{z}/{x}/{y}.png?apiKey={dageoapifykey}

https://gis.apfo.usda.gov/arcgis/rest/services/NAIP/USDA\_CONUS\_PRIME/ImageServer/tile/{z}/{y}/{x}?blankTile=false

Use {z}, {y}, and {x} as the placeholders for the zoom level, row, and column of the tile. You can also use {name} as a placeholder for the name you've inputted. The URL must begin with https://

Save images as  
png

Copy Paste Select All

From the DOWNLOAD MAPS button on the main screen, you can click the "Custom basemap source" button to have the app use different map tiles than the default options we provide.



Basically all map services use a similar method of serving basemap image tiles. It's just a URL that encodes the zoom level and position of the map tile. You can input the URL here, with some special placeholders that the app will replace.

Additionally, you have to give the custom style a unique name so that these tiles won't overwrite any tiles you've downloaded from other styles, and you must specify whether it should save the images as png or jpeg files. Saving as jpeg only works if all the images provided by the server are in jpeg format.

I haven't widely tested this, so if you have trouble with your server, let us know.

## Minor fixes and improvements

- Added a quick method to connect to a relaying DA Flight app if it is hosting the WiFi hotspot.
- Added a quick method to connect to a relaying DA Flight app if it is on the network, and you know its IP address.
- When no video feed is selected on the relaying app, the listeners will know that is the reason why they aren't getting any video feed, instead of assuming it's because Share Video isn't enabled.
- "Start Mission" and "Start Dropping" buttons are now not both named "Start"
- When the drone is rebooted, the app will forget everything about it and re-request everything it needs to know.
- The app now distinguishes motors on/off status using the field for that, rather than inferring it from the Standby / Active mode. It should now be able to identify whether the motors are on or off if you crash the drone and it goes into Critical mode.
- Export MISB-compliant csv file from .dalog3 file for video multiplexing in ArcGIS
- Fixed a bug in which waypoints in a loaded mission wouldn't be snapped to the snap altitude due to floating point rounding error.
- Display flight controller firmware version in Drone Setup, and log it
- Allow screen rotation between the two landscape orientations
- Fixed Astro Mapping Kit gimbal control bug when AMC app is run before DA Flight
- Can use Freefly's USB FPV camera simultaneously with the Astro Mapping Kit, and switch quickly between the two feeds.
- Added support for Arducopter telemetry, Remote ID, and waypoint missions
- Ignis and DART drop locations created while using the simulator won't be saved
- Fixed being able to toggle waypoint segment activation while not in the waypoint menu.
- Flight log entry view improvements. Can now filter to specific messages.

- If the app crashes due to a bug in my code, it'll save out a file I can use to figure out what caused the crash. The file is accessible if you reboot your device and connect it to a PC via a USB cable, then look in /Android/data/com.droneamplified.daflight/files/

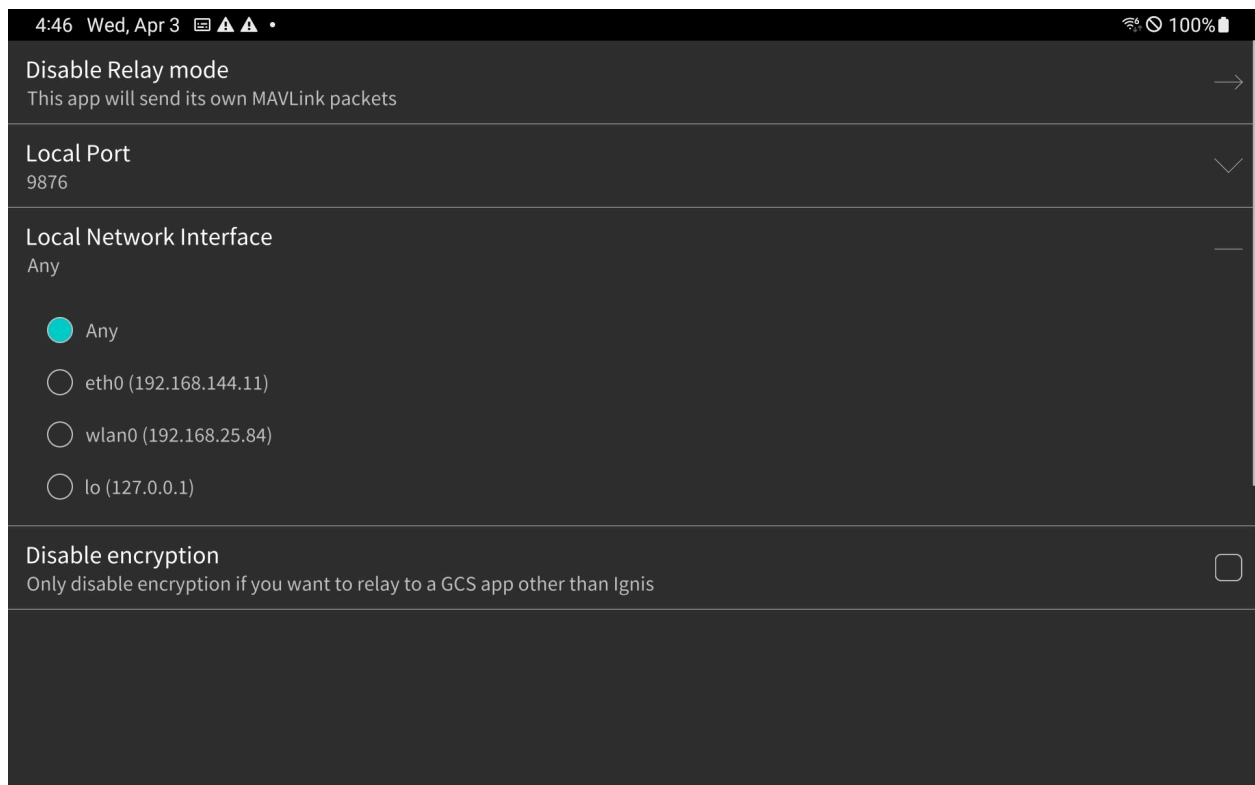
## Version 3.1.0

2024/4/5

### Securely share video, telemetry, and control

This update revamps the Contrast app's relaying functionality with new security features and brings it to the Ignis app too. So, you can now use the Ignis app on a big tablet mounted to the Pilot Pro, and relay through the Ignis app running on the Pilot Pro's small tablet. You can also relay data to multiple destinations, so multiple people can see the telemetry and video from the drone, but on their own devices.

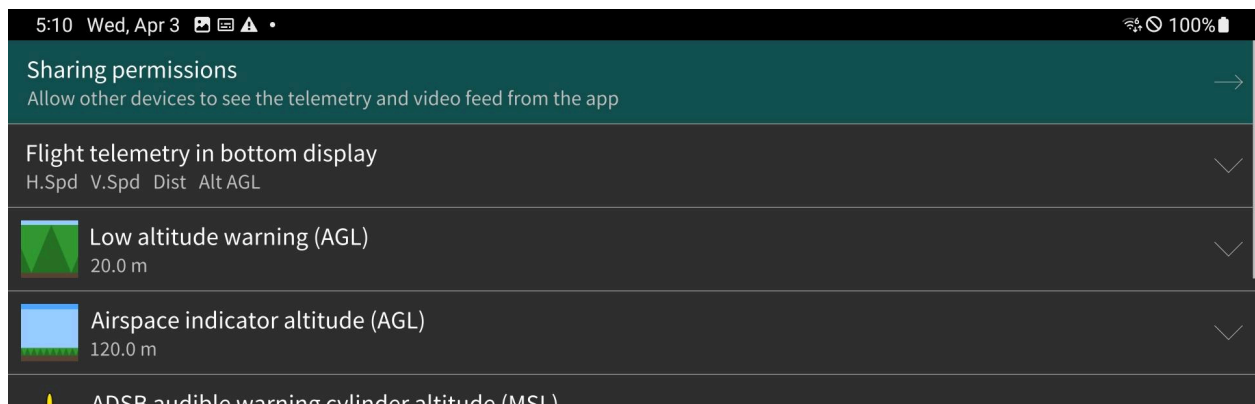
MAVLink relaying is disabled by default on the Ignis app. To enable it, go to "App Settings" → "Enable MAVLink relaying". The option will then change to a button to let you configure more options. If you click on it you'll see this screen:



If you expand the "Local Network Interface" option, you can conveniently see what IP address the tablet has on each of its network interfaces (e.g. Ethernet (eth0) or WiFi (wlan0)). You'll need to input this IP address and the relay mode port (default is 9876) as a custom MAVLink connection on the Ignis apps that you want to connect to this one. Additionally, configure a custom video stream connection with the DA protocol to the same IP address, but port 32423.

For people that just want to use a big tablet with a Pilot Pro, we've added new quick-connect options for this setup, so you don't need to configure custom ones.

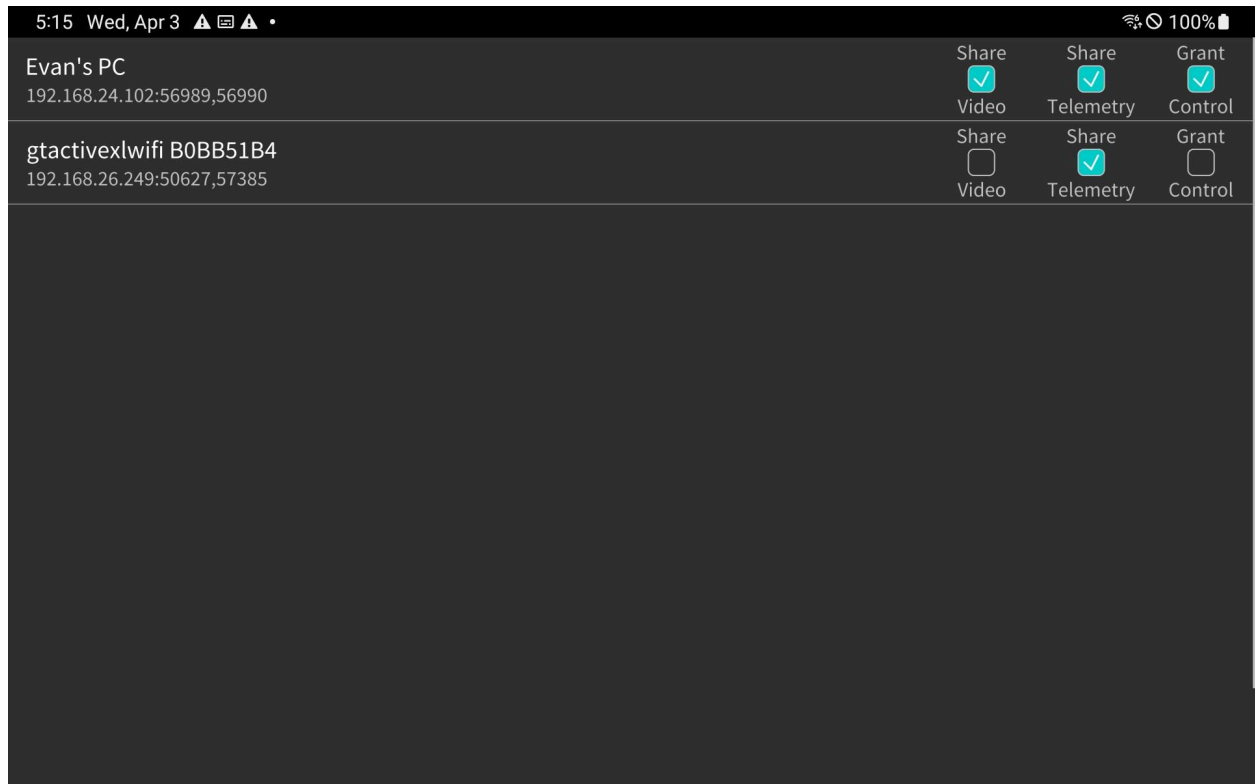
When a new app is trying to connect to the relaying Ignis app, the APP SETTINGS button on the relaying Ignis app will begin to flash turquoise. Click on it, then click on the new "Sharing Permissions" option.



This has also been added to the Contrast app as a new sharing icon along the top.



Click on this, and you'll see a list of all of the devices that are trying to connect to this app, and you can choose what data you share with them and whether or not they'll be granted control of the drone.



By default, no permissions are granted. Click Grant Control on the device you want to use as your main control device. Each device is identified by a user-configurable name ("App Settings"→"Tablet/Computer name") and their IP address.

Sharing video uses a lot of bandwidth, so you might want to limit which devices you share video to. If the app is transmitting at the maximum bandwidth it can support, you'll see a warning message here and the app will prioritize sharing to the device that has control and only use the remaining bandwidth for sharing to others.

You can only grant control to one device at a time. When you do, the app will remember which one you selected and automatically grant it control the next time you start the app. It also tells that device a randomly generated password so a malicious person can't just spoof their IP address to take control of your drone.

All of the communications between the relaying app and the connected Ignis apps are encrypted with an ephemeral AES key, so anyone sniffing the network the MAVLink and Video is being relayed over won't be able to see what's being transmitted. This is a new protocol, so you won't be able to relay to older versions of the Ignis app without disabling encryption (which I don't recommend doing on an unsecured network).

As an additional security measure, the app now binds its sockets to specific network interfaces. If you're using a Pilot Pro, you should reselect the Mavlink and video connection option for your drone after updating to this version, which will make the app use the ethernet interface. Otherwise, an attacker could potentially feed false data to the app via the WiFi network the Pilot Pro is connected to.

## Use a second tablet with a Pilot Pro

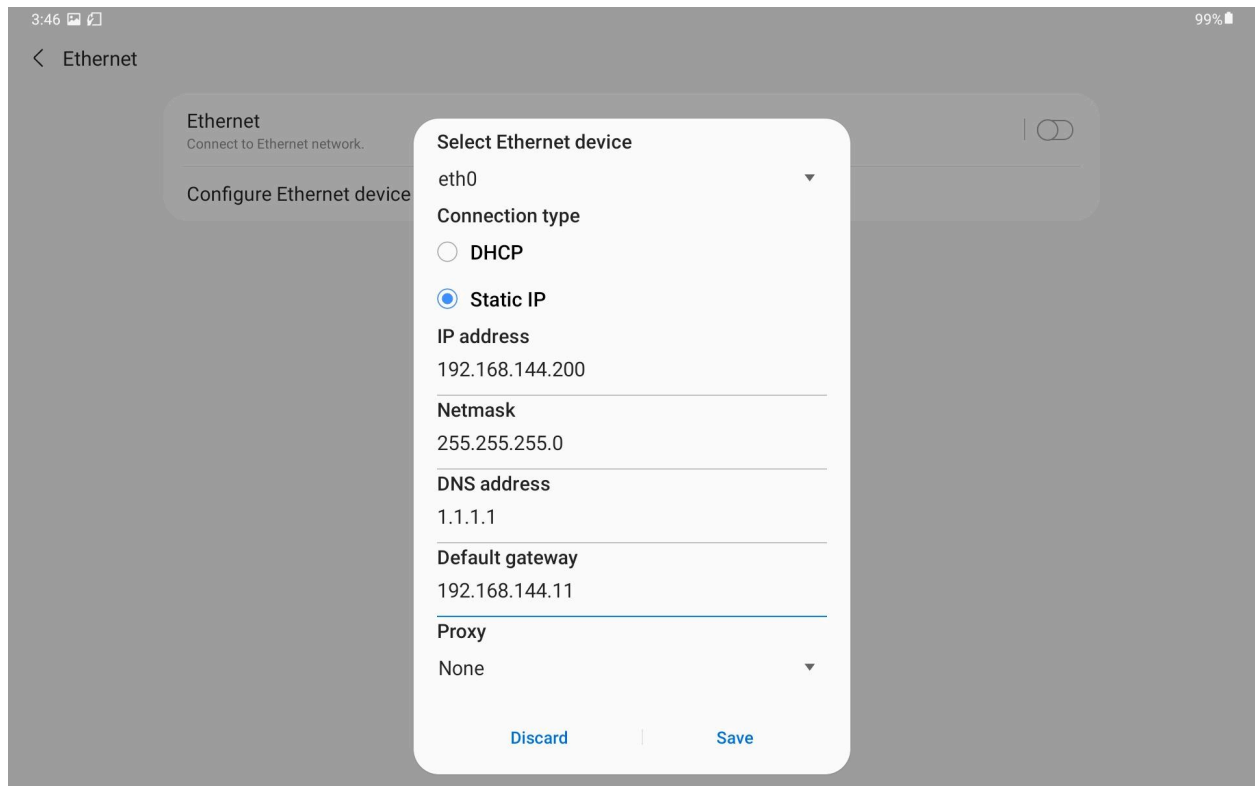
With this new relaying feature, you can now use a second tablet with the Pilot Pro.

Connect an Ethernet cable to the Ethernet port on the bottom of the Herelink radio, and use a USB-to-Ethernet converter to connect that to your tablet.



Open the Android Settings app on the big tablet, and go to Connections -> More Connection Settings -> Ethernet. Next, you must disable Ethernet by clicking on the slider in order to be able to configure it.

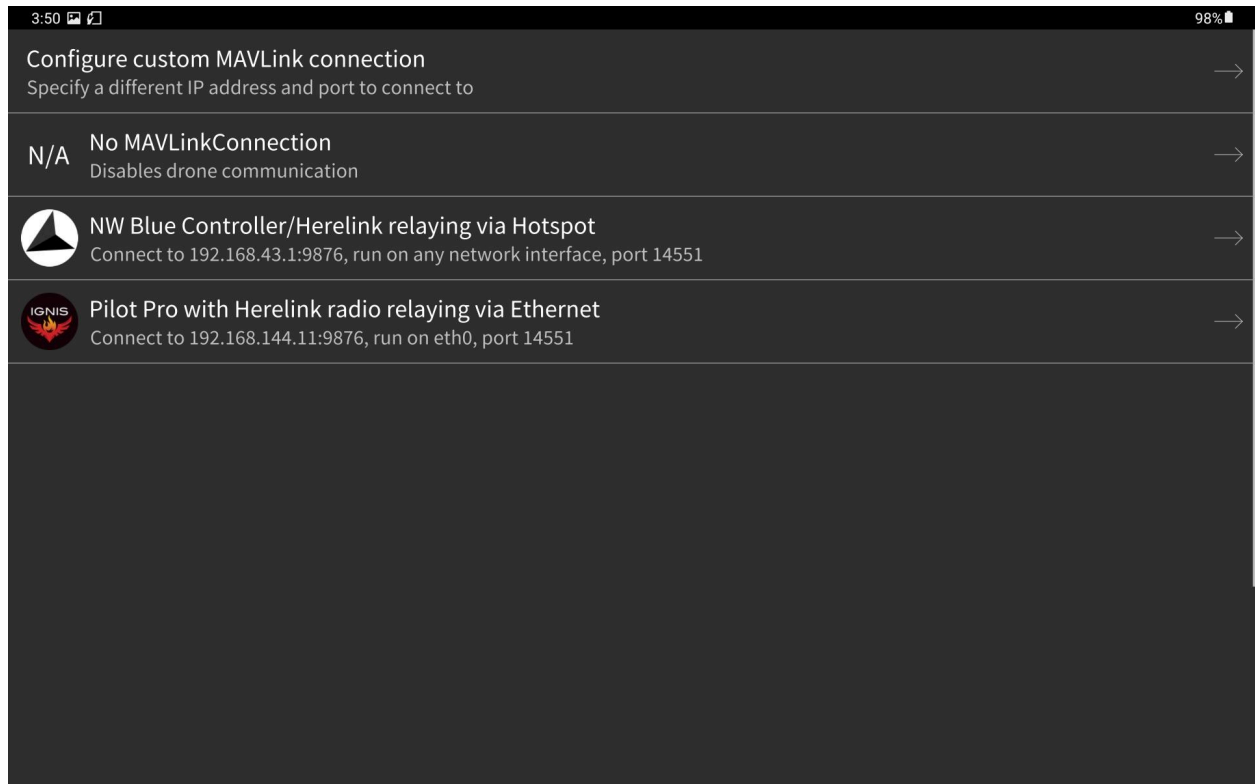
Configure the ethernet device to use the settings shown below:



Save, and re-enable ethernet. Additionally, you must disable WiFi on the big tablet, because an Android bug prevents it from communicating over Ethernet if WiFi is on.

On the big tablet, open the Ignis app again, go into Drone Setup, and select the "Pilot Pro with Herelink radio via Ethernet" options for both the Mavlink and Video connections.





On the Pilot Pro tablet, enable Mavlink relaying. You can use the big tablet in two different configurations:

### **1. Control on big tablet, Video on Pilot Pro tablet**

On the Pilot Pro tablet, grant control to the big tablet, then view a clean video stream by going to Drone Setup->Video Stream.

I have not yet implemented an obvious indication for when the Pilot Pro tablet has reasserted control after being disconnected from the big tablet, so if this connection is unreliable you may want to use configuration 2.

### **2. Video on big tablet, Control on Pilot Pro tablet**

On the Pilot Pro tablet, share video and telemetry with the big tablet, but do not grant it control. On the big tablet, view a clean video stream by going to Drone Setup->Video Stream.

## **New control bindings options**

You will have to rebind your controls for hopefully the last time. The names for the options now make sense. New installations will default to a good binding scheme for your controller. There's also a "Reset to Defaults" button at the bottom.

## Other improvements and bug fixes:

- Irrelevant Mavlink and Video quick connect options for your device are now hidden
- Enabling the simulator no longer requires you to select the simulator MAVLink connection option.
- Orientation HUD is displayed when using the controller to move the gimbal.
- You can now set the max number of waypoints to upload
- Better flow through the UI to give the app the permissions it needs.
- Better default styles for kml overlays that don't specify color and thickness
- Fixed a crash when downloading a kml overlay's marker image
- Support some more IFSAR GeoTIFF elevation files
- More Px4 parameters can be set through the app

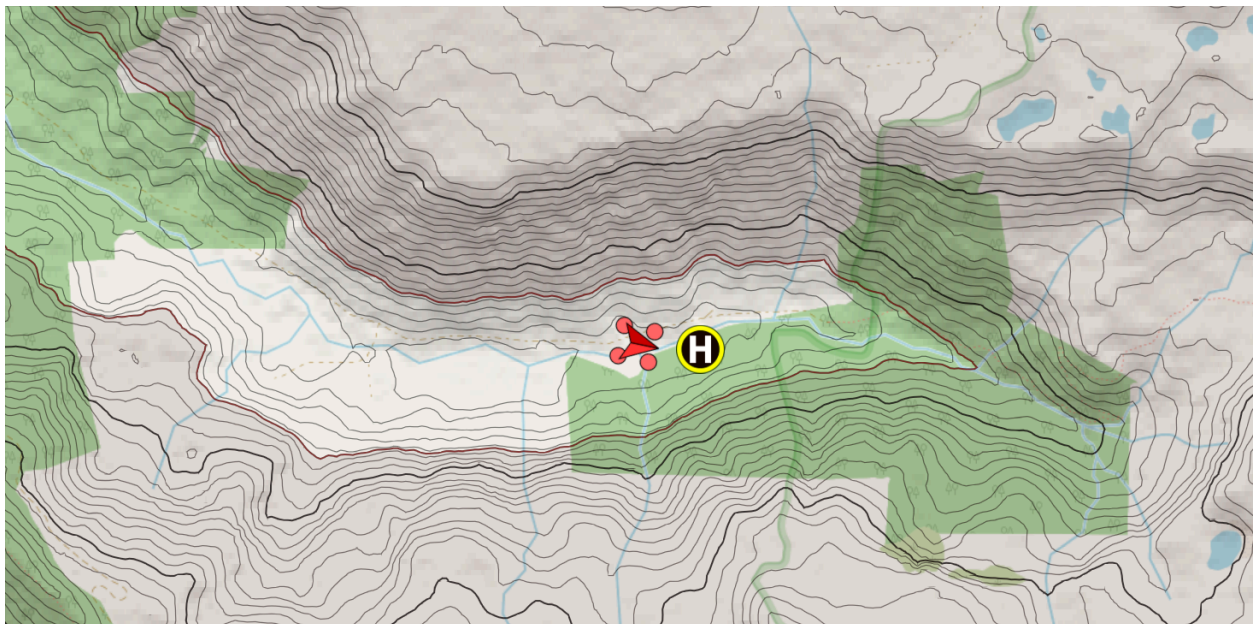
## Known issues:

- When running the app on a Herelink / NW Blue controller, the app will sometimes display a black screen after you wake the device up. Press the square navigation button, then click on the app to fix it.

## Version 3.0.4

2024/2/9

This update lets you see a topographic overlay with level lines and hill shading. This is much more useful out in the wilderness than the plain street maps.



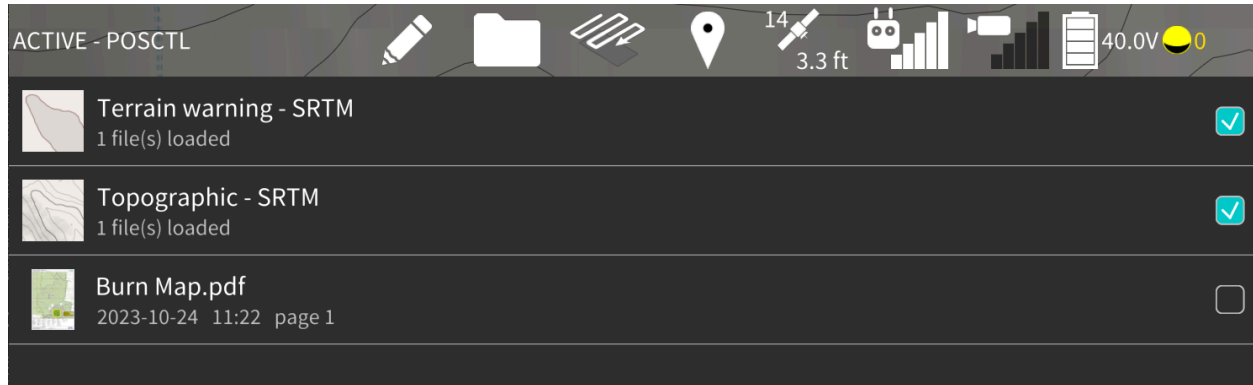
The level line demarcation depends on your units setting:

- Thinnest lines: every 20 feet or 5 meters (not visible when zoomed out)

- Thin lines: every 100 feet or 50 meters
- Thick lines: every 1000 feet or 500 meters

The level lines aren't labeled yet, but you can always tap the map to view the elevation there.

You can enable these overlays by clicking the Folder icon, then Overlays



The Terrain warning overlay also has a new look. This overlay shades the terrain in the locations your drone will clip the treetops if you fly into it at your current altitude. It uses the Low altitude warning setting in the App Settings.

The app will only load elevation data around the drone's current location or the location of your waypoint mission. So, you won't see this overlay if you simply enable it and zoom in on a spot on the map. You also need to drop a waypoint to make the app load elevation data there.

These overlays are derived from the digital elevation model the app uses. By default this is the Shuttle Radar Topography Mission (SRTM) dataset. However, you can import your own custom elevation data into the app, and these overlays will use that data instead. The SRTM dataset isn't the most accurate or up-to-date dataset available for the US, so you might be able to get a better topographic overlay in the app if you export one as a georeferenced pdf file.

#### Other improvements and bug fixes

- Ignis Setup screen now asks for confirmation before you can drop 2 or start.
- Added support for DA strobe light
- The street map tiles will now save and load the file to the tablet's storage before displaying it, so you know that everything you see will be available for offline usage.
- Worked around a bug where the Tab S7 video decoder wouldn't work correctly after switching the Sony a7R between photo and video
- If there's a video decoder error, it will now be displayed on the main screen.
- Modified the RTSP client code to support a new FPV IP camera

- You can now touch the back button to close the video feed on the Contrast app when using a NextVision camera. Touching the video feed doesn't back out anymore because that's how you make it do object tracking.

## Version 3.0.3

- Added object tracking to NextVision camera control. Touch the video stream to track that object. Touch the map to maximize the map.
- Added controls for DART payload
- Added UI to explain how to give the app the permissions it needs
- Fixed a bug in which the "Go to Secondary" binding would load the recenter button binding when the app is started.

## Version 3.0.2

- New button binding system

## Version 3.0.1

- Log most app preferences.
- Change Ignis status text and icon color to yellow or red if there are Ignis faults.
- Use v2 method of starting Ignis.
- Added drop timing and spacing control to Ignis Setup
- Astro Mapping kit exposure settings use slideshow instead of radio buttons.

## Version 3.0.0

Initial release.

Supports:

- Alta X
- Astro
- NW Blue Controller / Herelink
- Pilot Pro Controller with Herelink radio
- Wiris Pro and Pixy U
- Astro Mapping Kit

- NextVision Dragoneye 2 (Nose or belly mount)
- Ignis

Major features:

- Much faster, no 3rd party code
- Windows version designed for windows tablets
- Offline street maps
- Download offline SRTM elevation data
- Import IFSAR Alaska elevation data, and some support for other GeoTIFF and BilZip elevation data
- Import Georeferenced PDF Overlays
- Import Kml/Kmz Overlays
- Waypoint Missions
- Non-mapping transect missions
- Flight logging via new .dalog3 format
  - Flight log replay
  - Save missions
  - Export to gpx, photo info csv, fmv csv

Notable missing features (will be implemented eventually)

- Offline satellite maps
- Mapping missions
- Ignis bluetooth setup
- Kmz editor
- Manual download of offline street maps
- Advanced Drone Setup