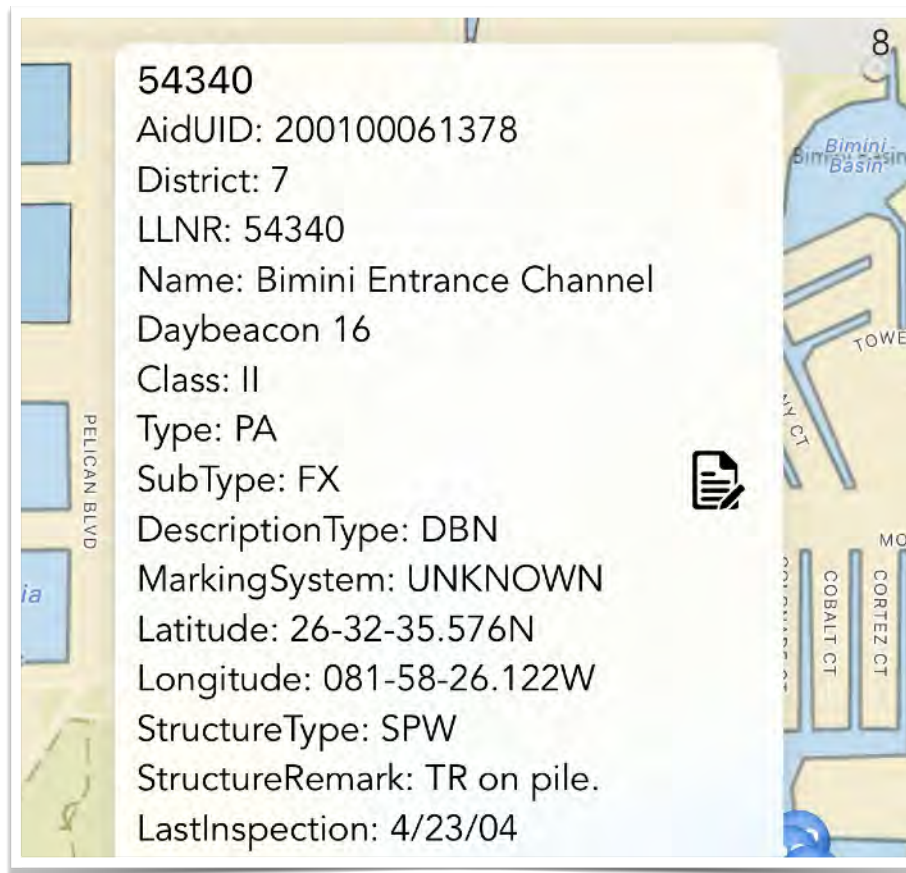




AV Assistant User Manual

for USCG / USCG Auxiliary Use

Apple Version 2.7.5 build 81



(located at atons.us/avaforios)

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SUMMARY

AV Assistant (AVA) is a mobile app designed for reporting ATON and PATON verifications and discrepancies. It replaces an array of separate tools (GPS unit, camera, notepad, printed NAVCEN info), and virtually eliminates manual errors associated with processing a paper 7054. Smartphones and tablets have GPS, cameras, and internet connectivity built-in, so with AV Assistant, everything needed is contained in one simple, efficient, ready-to-go device.

AV Assistant:

- tracks your location with internal or external GPS
- downloads a district Light List (LL) and Local Notices to Mariners (LNM)
- shows all aids surrounding your location
- automatically detects when an aid might not be on its Assigned Position (AP)
- automatically tags photos with data and includes them in the 7054 PDF

Just one tap:

- provides the bearing and distance from your location to an aid
- displays current LL data and LNM corrections on an aid
- starts a 7054 report on the aid with many fields auto-filled



AV Assistant on App Store
(where to get the app)



AV Assistant Website
(including manual & tips)

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AV ASSISTANT

INSTALLATION

AV Assistant (AVA) is available on the Apple App Store. To download it, open the App Store on your iPhone or iPad, and enter "AV Assistant" in the search box. The app icon should look like a magenta buoy.



LATEST

For the latest information - bookmark this unpublished link: <http://atons.us/avaforios>

If you go to atons.us, you will **NOT** find this version of the manual for USCG/Auxiliary use. Alternatively, if you have AVA set up correctly, you can go to Settings and tap on **Tap Here for Info**.

CHANGES

AVA 2.7.5 build 81

- fixes continual Proceed or Cancel prompts when cancelled, now waits 6 hours before prompting again (Cancel is recommended if you are on the water)
- iOS 15 minimum required

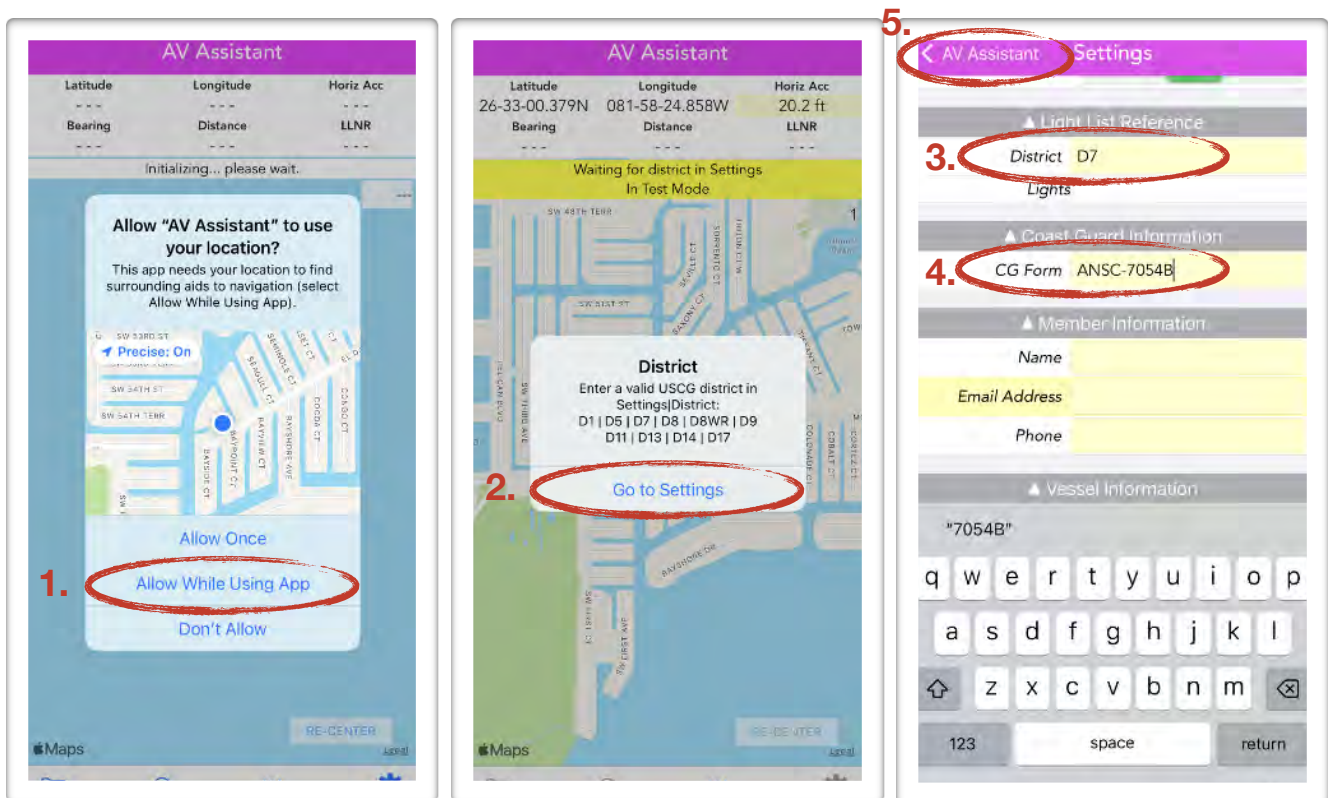
AVA 2.7.4 build 80* incorporates significant changes and re-familiarizing yourself with the manual is highly recommended.

- adds USAIMS (U.S. Aids Information Management System) data for more detail
- adds NOAA ENC Chart Tiles for marine chart display
- Off Station tolerance is now 60 feet for fixed, 120 feet for floating
- adds Max Leaning for local variances, tilt measurement on camera & photo
- adds screenshot of map at beginning of report with PF, PT circles (PT dashed*)

Caution:

AV Assistant, which provides data on navigation aids and marine charts, is not intended to be used in place of charts or Coast Pilots. Charts should be consulted for the location of all aids to navigation. It may be dangerous to use aids to navigation without reference to charts.

USCG AUX SETUP



You must complete these steps before proceeding!

1. Tap **Allow While Using the App**
2. Tap **Go to Settings** to set the District
3. Tap in the box and enter your district, e.g. **D7**
4. Tap in the box and enter exactly in caps: **ANSC-7054B**
5. Tap **<AV Assistant** (top left corner) to return to the map

The data sources will begin loading after a brief delay. Upon completion, all the surrounding aids within 10 NM will show (you may not see any if you are currently not near any water with aids). Now you can return to Settings and complete the rest of the information necessary to use AVA.

Note that on older devices, you may receive a memory warning. In such an event, AVA turns off the marine chart feature and reduces your AOI in NM setting to 5. You may be able to turn charts back on afterward, but leave your AOI at 5 or less.

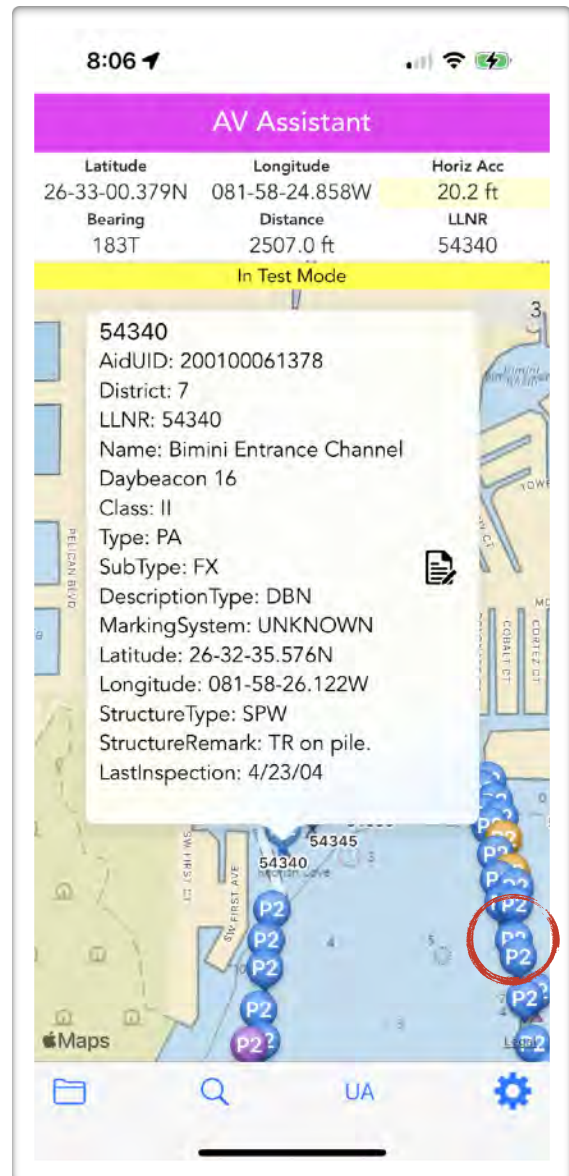
GETTING STARTED

This section covers getting **AV Assistant** (AVA) correctly configured, so you can produce reports easily and accurately once underway.

The first step is to configure your settings. AVA will ask you for permission to access your location (while in use) and use the camera. These permissions are required for AVA to operate correctly. AVA also wants to know your District at startup (and CG Form).

Tap the **gear** icon (bottom right corner) to return to Settings, and then, on the Settings page, tap the **Edit** button (bottom left corner). Fill in the following:

- **GPS Information**
 - External (Bluetooth) GPS - leave blank if unused, otherwise enter the make and model of your Bluetooth GPS - e.g. Garmin GLO 2, Bad Elf Pro, etc. When connected, your location information comes from this GPS device.
- **Member Information**
 - Organization - **USCG Auxiliary**
 - Unit - e.g. 070-09-10
 - your member ID, name, email, and phone. Double-check your email.
 - whether or not you are AV-PQS certified
- **Coast Guard Information**
 - you can get this information from your FSO-NS, SO-NS, or DSO-NS - for example, for D7 Cape Coral, you use "Sector St. Petersburg" for Critical & Urgent, 07-41945 (ANT team) for Routine, and your OPCON is 07-30309 (Fort Myers Beach).
 - for CG Form, you must use the correct case-sensitive wording - **ANSC-7054B** - all caps, no spaces. This "unlocks" the full USCG/Auxiliary capabilities of AVA. If you do not enter this correctly, you will get the public form.



- **Chart Reference**

- enter the ENC chart number(s) for your patrol area
- note that RNC charts are going away and you should use ENC charts

The remaining settings can be left until you have acquired some experience with using AV Assistant.

FIRST RUN

When **AV Assistant** has your district, AVA will load the necessary data sources (Light List, Local Notices to Mariners, USAIMS, NOAA ENC chart tiles). These can take a few minutes, depending on the source and your internet connection. Wait for the downloads to complete. If you do not finish downloading the ENC chart tiles, you will not see the marine chart.

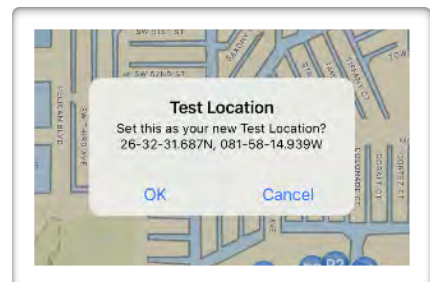
AV Assistant first starts in Test Mode, which allows you to become familiar with AVA operation and practice ATON surveys. You can make as many test reports as you like - try reporting the same aid in multiple ways from the comfort of your armchair, using a lamp or object by your chair as a stand-in for aids. Pick a channel near your home and report them all as a mix of verifications and discrepancies. You can delete them and practice until you are fluent in using AVA.

- A yellow bar across the top of the map shows you are in Test Mode. While in Test Mode, all emails will carry a Test Mode header, warning yourself and any readers to ignore the reports.
- Do NOT forward any test reports up the chain or to the Coast Guard.

Test Mode

Make sure **Test Mode** is on. If you don't see a yellow bar across the top of the map, tap the gear icon at the bottom right of the page to enter **Settings**, scroll to the bottom, tap **Edit** at the bottom left of the page, switch **Test Mode** on, and tap **<AV Assistant** (top left) to return to the map. Even if you are indoors and not getting GPS signals, you will get location information from your WiFi, which is fine for testing.

You may want to set a test location to explore other areas from your home. Enter a specific Test Latitude and Test Longitude in Settings, or scroll around on the map, pinch or spread with two fingers to zoom out or in, and when you find a location where you want your armchair boat to be, tap and hold on the map. A dialog box then appears, asking if you want to set this position as your test location. Tap **Ok**.



The test location you set will not change even if you move to another physical location.

To remain in test mode while still using your live location, go into Settings and delete both Test Latitude and Test Longitude (0,0). All reports are still marked as test reports.

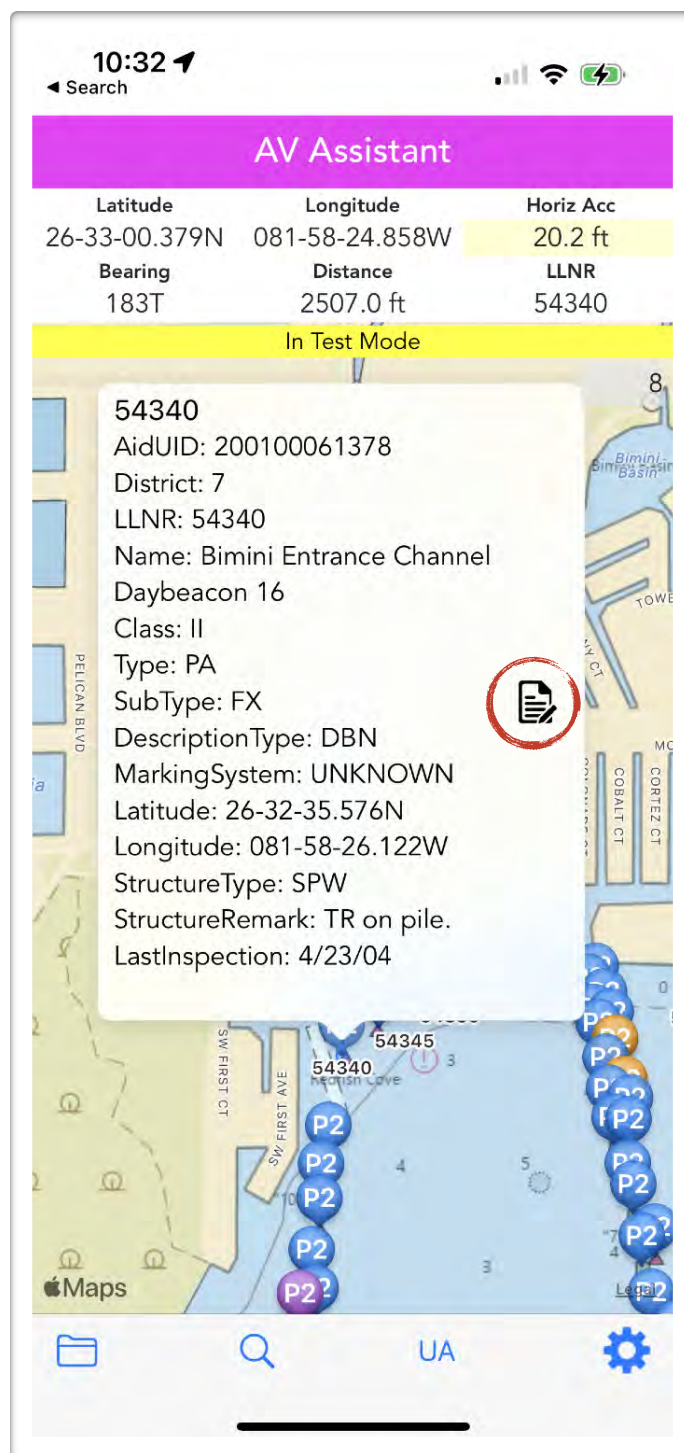
Colored pins on the map represent ATON types and status, more fully explained in the reference section. For now, blue pins are private aids (PA, P1, P2, P3) and red pins are federal aids (FD). Orange pins are aids (both private and federal) that have an LNM notice on them.

Pick a nearby aid and tap on it. An information block will appear, similar to the one shown at right. All other aid pins will now disappear.

You will see a bearing line from your test location to the aid. The true bearing, distance from your location, and the Light List Reference Number of the aid being tracked is shown on the second line of the status display at the top of the page.

Tap the **document icon** in the right margin of the information block to start a report. This will open the Report page.

Warning: The bearing line does NOT take into account any navigational hazards (obstructions, shallow water, etc) that may exist between you and the aid. It is **your** responsibility to navigate safely to the aid.



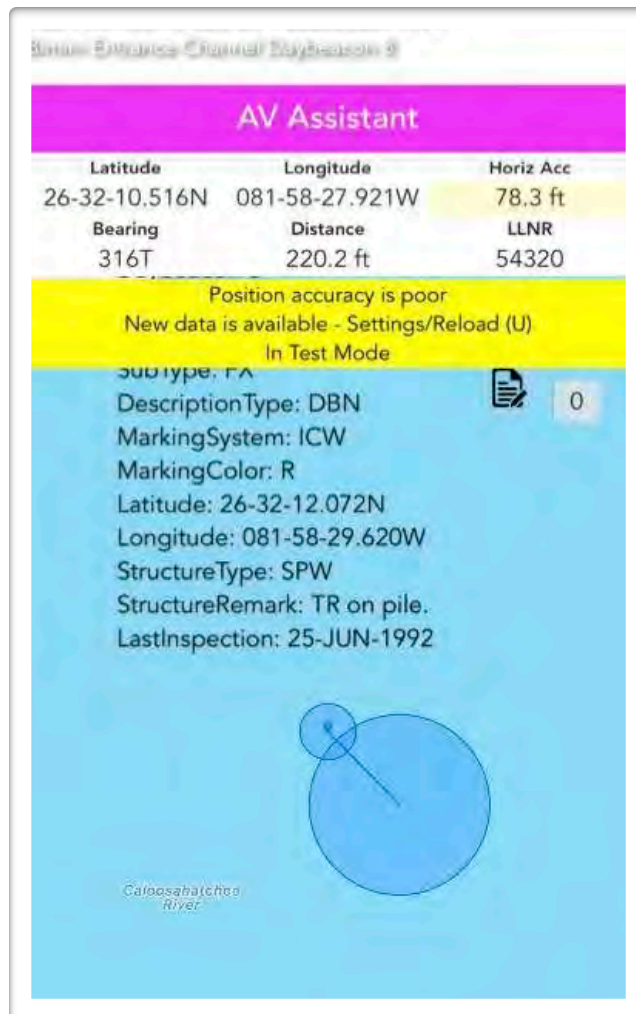
With AVA 2.7.3 (build 78), a screenshot is now captured at the moment you tap on the document icon.

This screenshot appears on your screen during a transition period of approximately 1-2 seconds to the report page. It is important you do not try to interact with AVA during this time until the report page is shown.

The screenshot appears as the first photo at the bottom of your report. You will not really be able to see this photo until you reach the Preview 7054 page where you can zoom in on it.

The aid (small blue dot) is shown, in this case, at the upper right of your position with a position tolerance circle of 60 feet, since it is a fixed aid. In 2.7.4 (80), the PT circle has a dashed line (not shown here) to differentiate it from the PF circle.

This position fix has an HA of 78 feet, so the position fix circle is quite large. Since the circles overlap, this cannot be an off-station report since your location could possibly be in the intersecting area.

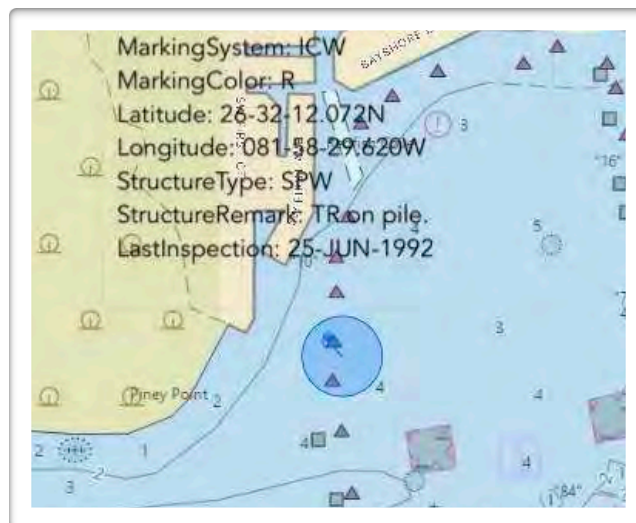


Default .004 Scale

You can control this feature with two settings under General Information section:

- Include Map Screenshot in Report - turns feature on/off
- Screenshot Scale (use .002-.02) - controls scale.
 - .002 zooms in (default is .004, which shows the PF and PT circles in more detail)
 - .02 zooms out and usually will show the marine chart detail.

This is a new feature and may undergo changes in future versions.



.02 Scale

After the screenshot capture, the *Report* page comes up.

Let's do a verification to start, so tap on **Verification** at the top of the Report page. Remember, you cannot verify federal aids, and you cannot verify PATONs in live mode unless you are AV-PQS certified.

Note that AVA automatically fills in the *Urgency of Report* as *Routine* and the *Method of Report* as *Email*, and the dates and times are filled in automatically. For the *Email* method, the time is updated again when you send it.

Based on your observations, you may want to change these selections. When you change the *Urgency of Report* or the *Method of Report*, the dates and times will change. Some dates and times cannot be edited to preserve the integrity of the data in the report.

The Light List (or USAIMS) data is shown here, as well as any Local Notice to Mariners data, if there is an LNM issued on this aid. None of these fields can be changed. If there is an error, that is a reason to file a report and explain the error.

USAIMS data takes priority over Light List data when both data sources are available.

The screenshot shows the AV Assistant Report page. At the top, there is a navigation bar with a back arrow, 'AV Assistant', 'Report', and 'Preview'. Below this is a section for 'Type of Report' with three options: 'Type of Report', 'Verification' (highlighted with a red circle), and 'Discrepancy'. The next section is 'Coast Guard Reporting' with 'Urgency of Report' options: 'Critical', 'Urgent', and 'Routine' (highlighted). Below that, 'CG Unit Notified' is shown with 'Date Observed' 04/04/23. The 'Method of Report' options are 'Email' (highlighted), 'Radio', and 'Telephone'. 'Date Reported' is 04/04/23 and 'Time Reported' is 1035. The 'Light List Data' section includes: 'Aid UID' 200100061378, 'LLNR' 54340, 'Aid Name' Bimini Entrance Channel Daybeacon 16, 'Aid Class' II, 'Type' PA, 'SubType' FX, 'Description Type' DBN, 'Marking System' UNKNOWN, 'AP Latitude' 26-32-35.576N, 'AP Longitude' 081-58-26.122W, and 'Structure Type' Wood. At the bottom, there are buttons for 'Position Fix' and 'Camera'.

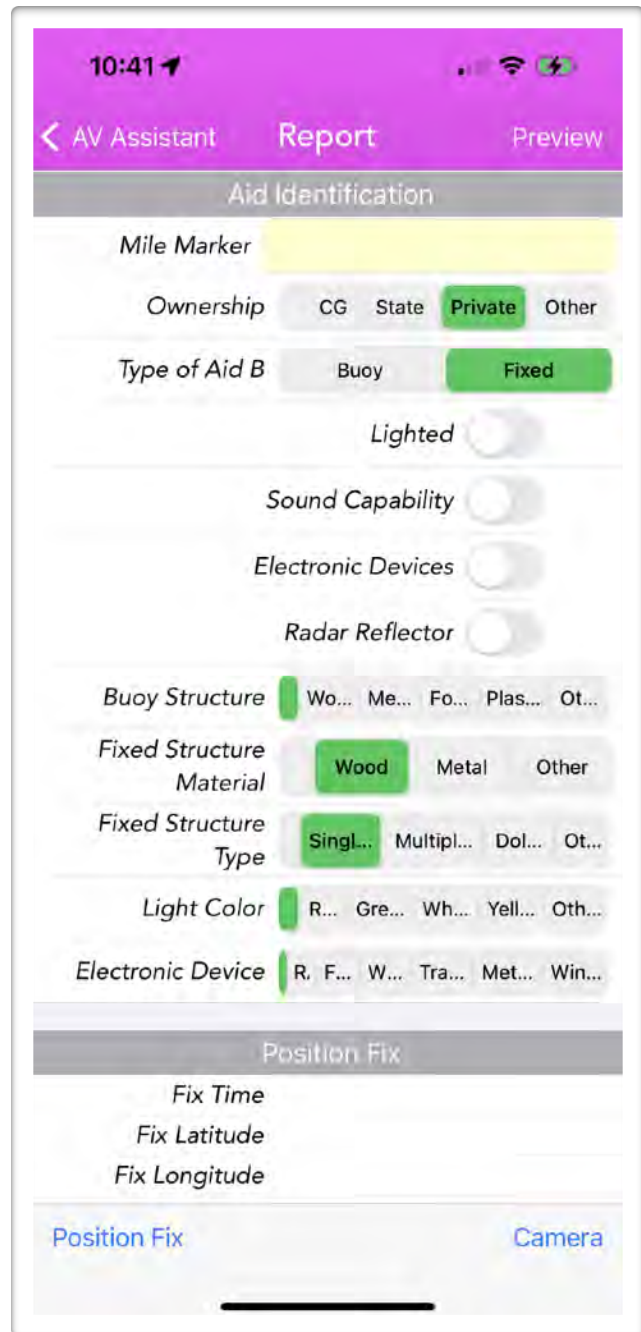
Note - if you return to the map after starting a report, you can tap on the document icon again to return to the report with all entries preserved. If you tap on the map or on another aid, you will lose everything you have entered, and you will have to start over.

Mile Marker is used only in District 8 Western Rivers.

AV Assistant will normally automatically fill in the Ownership, Type of Aid, Buoy Structure, Fixed Structure Material, Fixed Structure Type, Light Color, and Electronic Device from USAIMS or Light List data. However, they are only inferences based on the data, and it is up to **you**, as the Aids Verifier (AV), to observe and change any incorrect or missing values. Make a note of such changes in the comments if they differ from the information in the Light List Data section.

In the case of Unrecognized Aids, these will not be filled in because AVA will not have any data on the aid. You, as the AV, will need to select the correct options.

Tip: if you have trouble reading the options on a small device, e.g. Light Color, turn your phone sideways and you may then be able to read the options. Check the reference section for the options and familiarize yourself with them for future reference if your device can't show the full names.



Rotated Device Screen

You may take a photo as you approach the aid followed by a position fix (PF), or take a position fix first followed by a photo. Often, the order will be dictated by approach and local conditions. We call these Position First or Photo First approaches. You may want to discuss these approaches with the coxswain ahead of time.

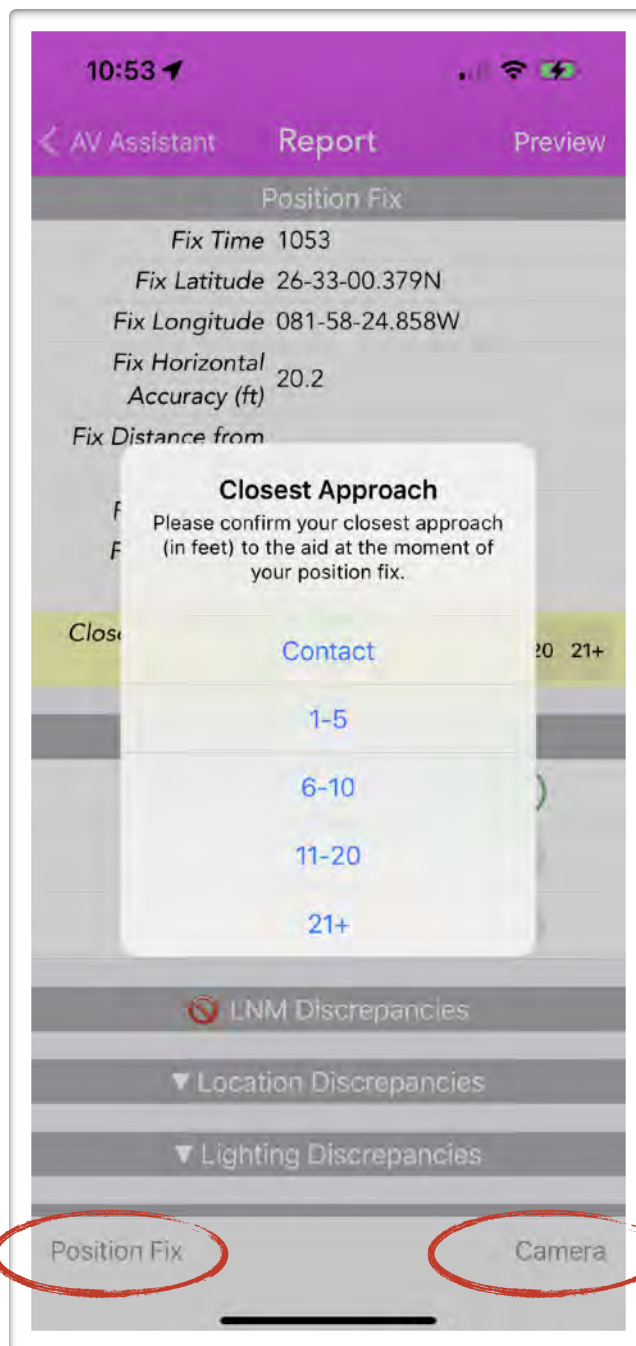
To take the position fix, tap **Position Fix** (bottom left). AVA then records the location of the aid and other fix-related data that determines the accuracy of the fix.

AVA will then ask for your closest approach - this is how close your phone or external GPS was when you tapped Position Fix.

Your total position fix error is dependent on your GPS, closest approach (CA), and speed error (SE). You can't control your GPS accuracy but you **can** control your CA and SE. When conditions permit, always strive to come to a dead stop within 1-5 feet alongside or try to make contact (using an external GPS on a pole)

If you are reporting on a missing aid, always select **21+**. This triggers a POSITION APPROXIMATE notation on the 7054, which is appropriate because you do not know where the missing aid actually is.

To take one or more photos, tap **Camera** (bottom right) to open the camera page, shown next. If you forget to include a photo, AVA will remind you when you attempt to preview your report.



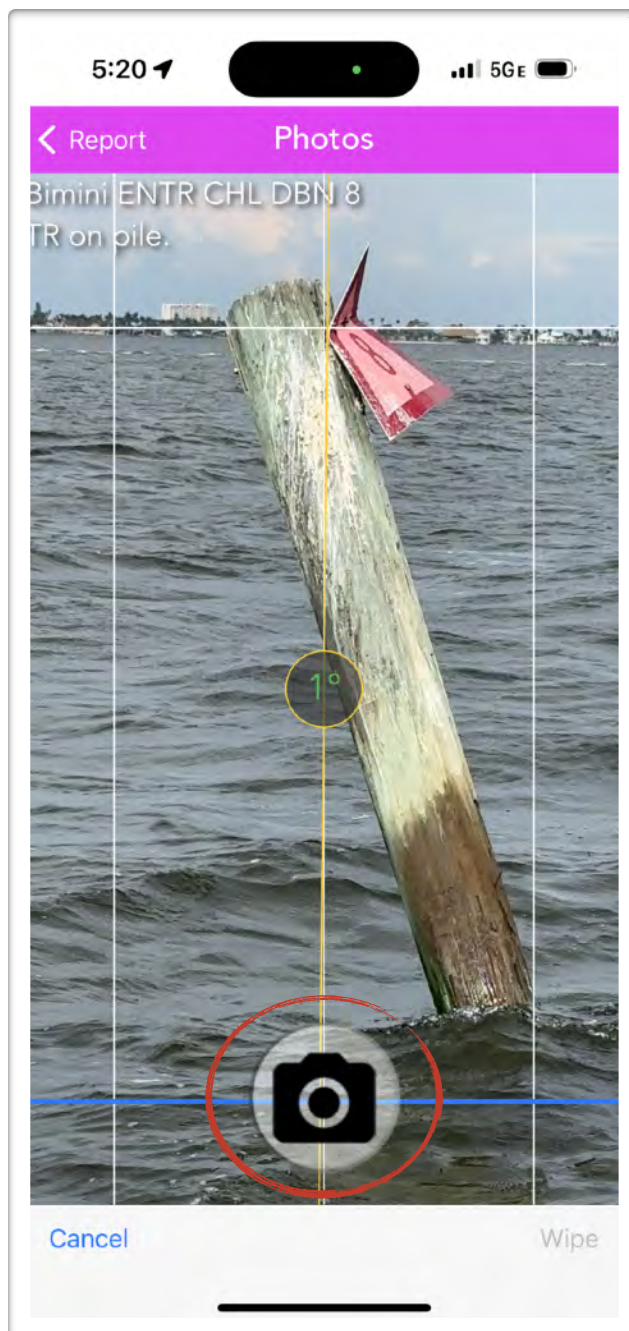
The Photos page shows a live preview of what the camera sees.

Note - the very first time you use AVA, you may not have a live preview. In this case, you'll need to tap *Cancel* and tap on *Camera* again.

The name of the light, its characteristics, and structure are shown in the upper left corner to remind you what to look for. Be sure to compare the data to the aid before taking the photo since this information goes away when the photo is taken.

There are guides to help you frame a good photo. Zoom in/out to get the waterline on the aid on the blue line and the top of the aid around the top of the outline frame. It does not have to be precisely in or out of the box, but the top and bottom of the aid must be visible.

Tap the **camera icon** button (bottom center of image area) to take the photo. The photo will then replace the live preview.

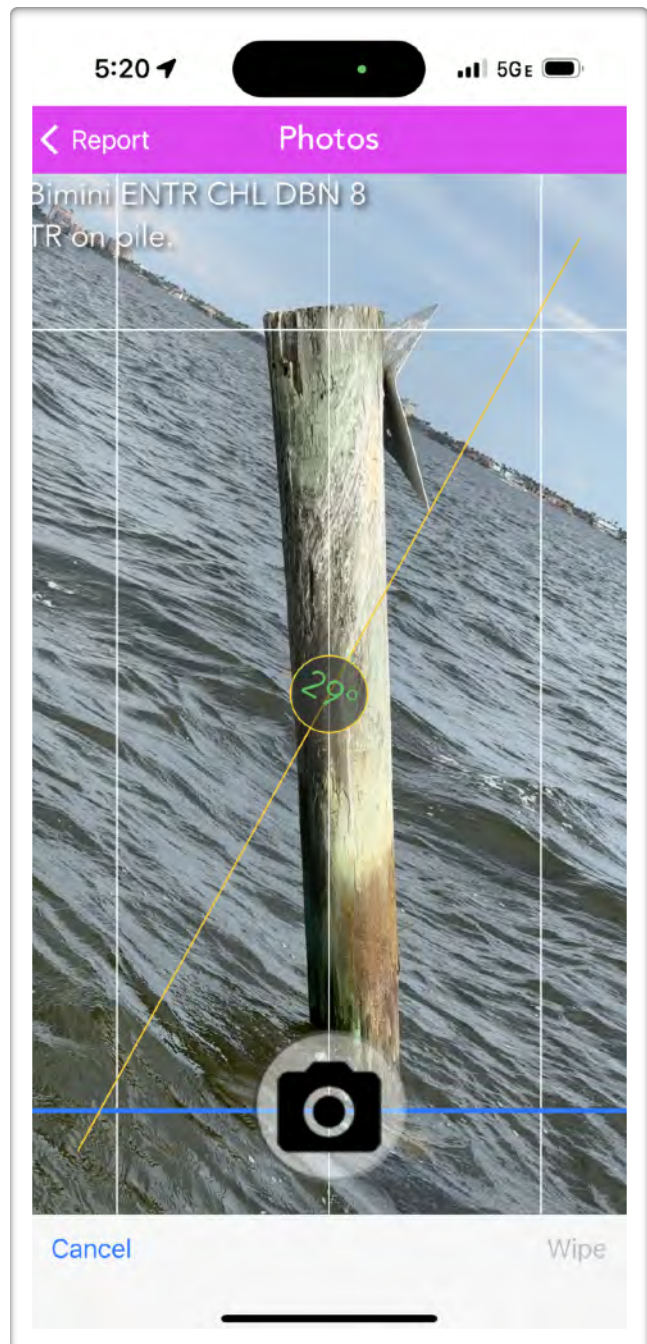


The live preview also includes a clinometer. This feature is used in conjunction with the Max Leaning setting in Settings. This is set to 15 degrees from vertical, by default. Your local district may use a different standard, such as 45°.

If you encounter a leaning aid, you can quickly report it by tilting the camera and line the white centerline up with the aid. The yellow line remains vertical (perpendicular to the water) and the angle readout changes with the angle.

If the number changes from green to red, the maximum lean angle has been met or exceeded.

Tap the **Camera** icon to record this. When you then tap the **green check** button to save this photo to your report, AVA will also mark it as a discrepancy and automatically check the Condition Discrepancy as leaning. The photo quite conclusively documents that condition.



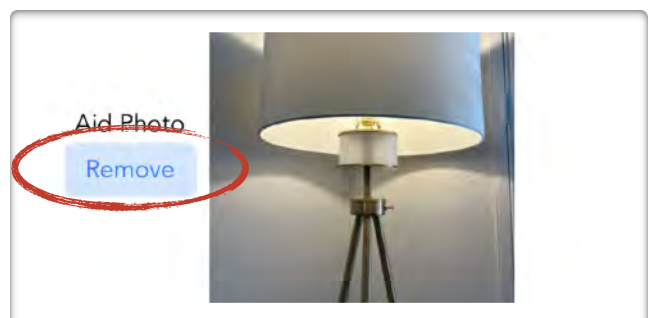
If you want to draw attention to an area on the photo, you can draw on the photo with your finger to highlight the area. To erase any drawing, tap the **Wipe** button (bottom right).

If the photo looks good, tap the **green check** button on the right. This action will save the photo and return you to the Report page. If you do not tap this **green check** button, your photo will NOT be saved to the report.

You can take additional photos of detail areas - ignore the outline frame when doing so.



If you have taken a photo in error, or want to take a better photo, scroll to the bottom of the Report page, and you can remove any or all the photos you have taken. Tap the **Camera** button again if you need to take new photos.



Tap on **Preview** (upper right corner). AVA will run a number of checks at this point to make sure everything has been checked off. It is surprisingly easy to forget certain steps when on the water - constant practice helps. So does AVA.

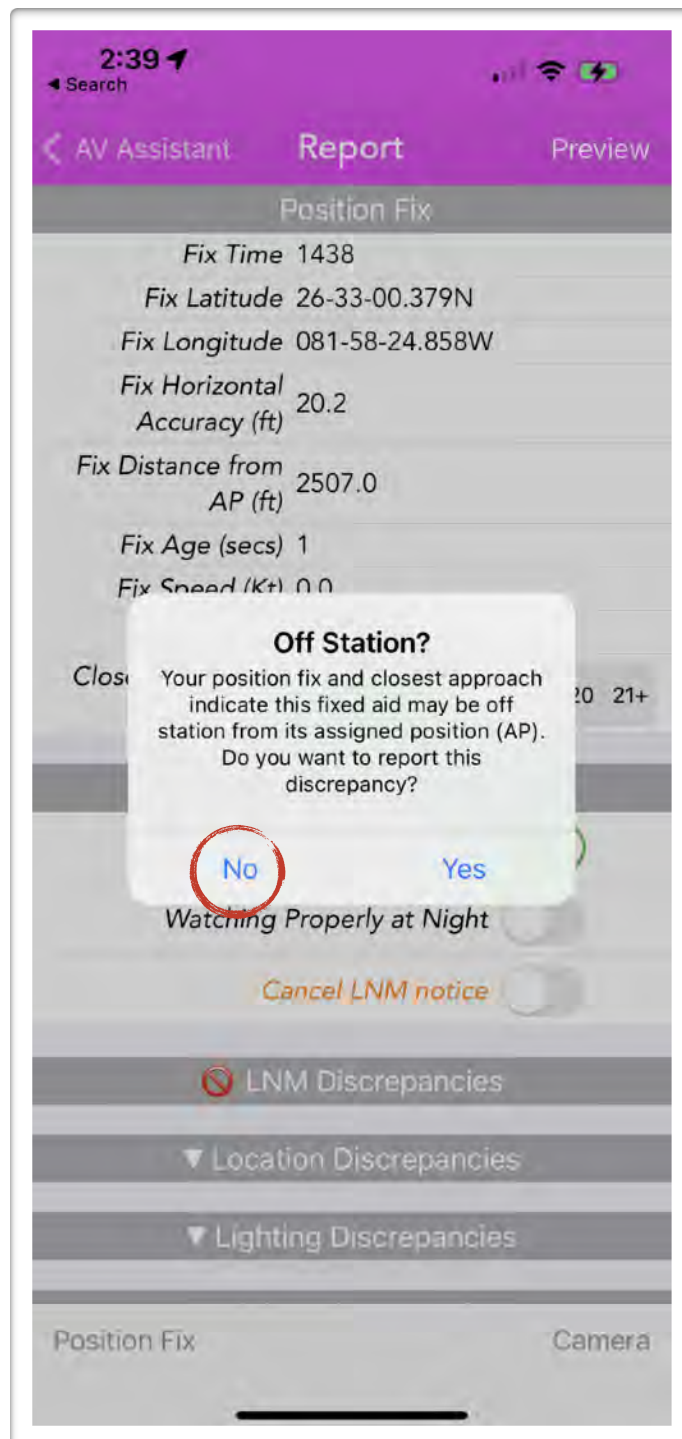
AVA checks and finds your location to be a long way away from the actual aid. Fair enough, you are presently sitting in an armchair, faking reports. In Test Mode, you will generally answer **No** to *Off Station?* unless you specifically want to try an off-station report.

Replying **Yes** to *Off Station?* will automatically change the report from a **Verification** to a **Discrepancy** and insert a "Not on Assigned Position" comment.

How AVA calculates *Off Station* is a more complicated explanation that is covered on the Reference website.

If AVA senses that the current Position Fix is poor, a **Position Accuracy** warning may appear. For this test report, if this occurs, tap on **Proceed**, which will take you to the Preview page where you will see the filled out 7054 form, including the photo you took.

While doing a real report, you would be outdoors and receiving a good GPS signal. You would likely not see a Position Accuracy warning. If you did, you would instead **Cancel** and repeat the **Position Fix**.



DO NOT ATTEMPT TO DIRECTLY MODIFY THE PDF IN THE PREVIEW. Instead, return to the Report page and make all changes there. Changes here may be lost or lead to an invalid report.

In creating the report, AVA has looked at the Light List/USAIMS data and automatically noted *Private* ownership and checked off *Fixed Structure* type of aid, *Wood* structure type, and *Single Pile*.

If there is an LNM notice issued on the aid, AVA will also check off the discrepancies reported in the LNM.

AVA will usually make the right selections **if** the Light List/USAIMS data is correct. It is up to **you**, as the Aids Verifier, to confirm or change the selections as needed. If the Light List data is wrong, be sure to note it in the comments.

All photos are embedded in the 7054 PDF document, eliminating the need to track separate files.

Tap on **Email** to return to the phone's email program.

Note - you must set up the iOS Mail app with at least one email account for this to work. This email account is used only for transmitting AVA emails and can be but does not need to be the email account you receive emails on.

AVA cannot use a 3rd party app such as Outlook. Outlook has blocked the 7054 and KML attachments to the email for one Auxiliarist (under investigation).

In 2.7.4 (80), the 7054 form is slightly different from the one shown here in that COLOR OF AID in Section V has been changed to AID CHARACTERISTIC, to make it clear this is the color of a lighted aid.

**U.S. COAST GUARD AUXILIARY
AIDS TO NAVIGATION REPORT**

SECTION I - MEMBER INFORMATION

MEMBER NUMBER: [] LAST NAME, FIRST NAME AND INITIAL: []

REPORT DATE: 04/04/23 OPCON: [] TELEPHONE NUMBER: [] EMAIL ADDRESS: []

SECTION II - COAST GUARD NOTIFICATION

DATE OBSERVED: 04/04/23 TIME OBSERVED: 1438 NAME OF CG CONTACT FOR: []

COAST GUARD UNIT NOTIFIED: [] DATE REPORTED: 04/04/23 TIME REPORTED: 1438 MET: []

SECTION III - AID IDENTIFICATION

AID OWNERSHIP: Private PIATON'S NAME: Bimini Entrance

LLNR: 54340 AID NUMBER: 200100061378 MILE MARKER: [] RNC CHART NO: []

SECTION IV - OBSERVED HORIZONTAL AND VERTICAL DATA

LATITUDE: 26-33-00.379N LONGITUDE: 081-58-24.858W GPS DATUM: WGS 84 FIX METHOD: GPS QC: HA

GPS MFG. AND MODEL NUMBER: iPhone 14 Pro

METHOD USED FOR DEPTH: [] MFG. AND MODEL NUMBER: [] OBSERVED DEPTH: [] TRANSDUCER COLOR: [] WATER CL: []

SECTION V - AID TO NAVIGATION CHARACTERISTICS CHECK OFF IF APPLICABLE

TYPE OF AID: Buoy Fixed Structure Lighted Sound Capable

TYPE OF BUOY: Wood Metal Foam Plastic

STRUCTURE TYPE: Wood Metal Single Pile Multiple Pile

COLOR OF AID: Red Green White Yellow

SOUNDING DEVICE: Bell Gong Horn Whistle

ELECTRONIC DEVICE: RACON Fog Detector Wind Generator Transformer Station

SECTION VI - DISCREPANCIES OBSERVED ON AID TO NAVIGATION

LOCATION DISCREPANCIES: [] LIGHTING DISCREPANCIES: []

CONDITION DISCREPANCIES: [] DAYBOARD DISCREPANCIES: []

DOCUMENTATION AND SPECIFICATION CHECKS: []

COMMENTS:
 *** TEST MODE *** DO NOT PROCESS AS A VALID 7054 REPC
 Light List AP: 26-32-35.576N, 081-58-26.122W, PT used is 60.0 f
 Fix is within 48.4 ft = 2DRMS + CA + SE = (20.2 * 2.4022) + 0.0 +
 Observed distance from Position Fix to AP: 2507.0 ft
 GPS is iPhone 14 Pro, LL 03/29/23, LNM 04/04/23, USAIMS 03/2
 Files: 7054-VR-TEST-54340-D7-0700910--20230404T1438
 ----- Do not edit this section above -----

AVA now generates an email with the report, ready to send.

The subject line contains:

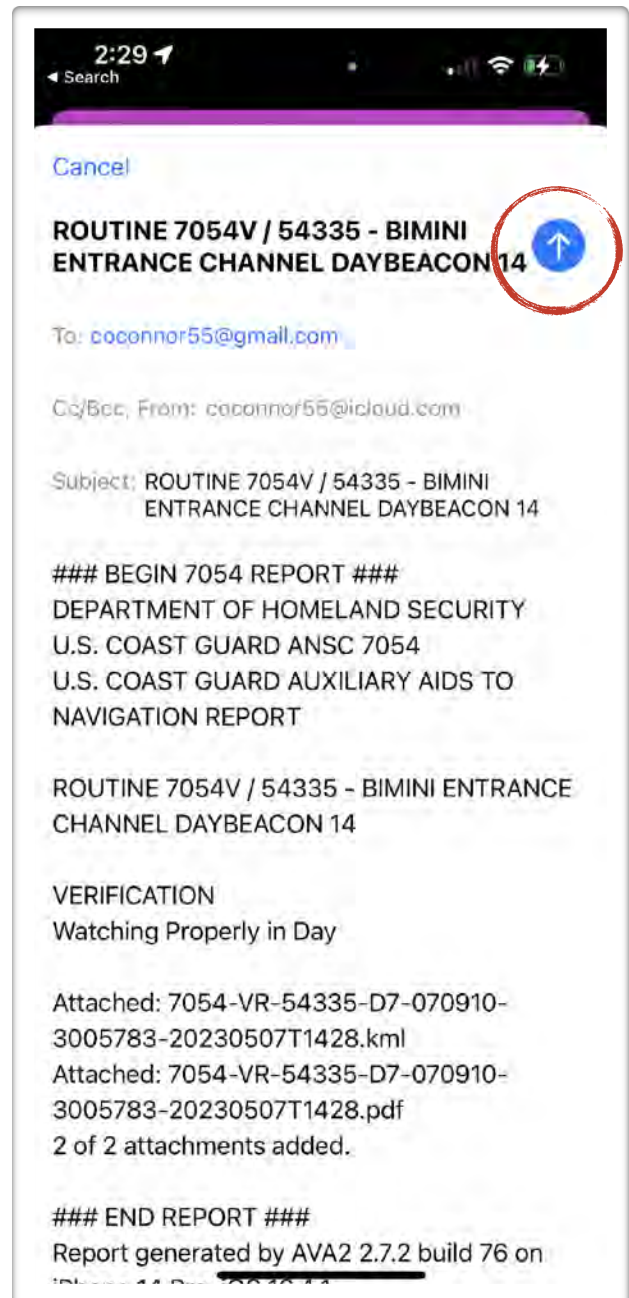
- the priority of the message - Critical, Urgent, or Routine
- followed by 7054V for a verification, or 7054D for a discrepancy
- whether you are in Test Mode
- the aid reference number (LLNR)
- the aid name.

This structure allows you to search an email folder quickly for all 7054 reports, 7054 verifications, or 7054 discrepancies, or a specific aid.

Note the test warnings in this email. These are inserted whenever you are in Test Mode so they will not be processed as live reports.

The email is automatically addressed to the email address you entered in Settings. If *Settings/Member Information/Email Address* is blank, then you will have to fill in your email address on the To: line every time, as in the example at right.

Tap **Send (up arrow)** to email the report. Once that is done, AVA will confirm the message has been sent, and then you are back at the home (map) page.



With practice, it is possible to do a verification in 1-2 minutes and discrepancies in 3-5 minutes. Because of AVA's intelligent autofill capabilities, a verification is generally a simple sequence:

1. tap **Verification**
2. tap **Camera** (to take a photo as you approach, or leave, an aid, then Save)
3. tap **Position Fix** (as you contact the aid, or pass slowly and closely)
4. tap **Preview** (check observations)
5. tap **Email**
6. tap **Send**

Steps 2 and 3 are interchangeable, depending on your preference or operational and weather factors.

Discrepancies are a little harder as you may be entering comments as well. You may be able to dictate using your microphone instead of typing on the keyboard, and Apple will convert your dictation to text.

Try repeating the process again, and answer **Yes** to the *Off Station?* alert. Look at the comments inserted by AVA.

Try reporting discrepancies as well as verifications, for lights and buoys.

UA (unrecognized aid) reports require more explanation and training than this First Run guide can provide, though some guidance is given here.

Local Notice to Mariners

If the aid has a Local Notice to Mariners report (orange marker) and you report a verification, AVA automatically inserts a comment to "Cancel LNM notice". Note that if you are reporting an aid with an LNM notice as a Discrepancy, there are two additional selections, one to confirm an LNM notice, and one to revise an LNM notice (e.g. a dayboard is now missing, not just damaged). You cannot select both.

Your Responsibility

While AVA's autofill capabilities make reporting a breeze, keep in mind that as a trained Aids Verifier, you are responsible for your reports, not AV Assistant, and you should always review and verify each report before forwarding it on for processing. AV Assistant is a tool, not an excuse.

You are responsible for the accuracy of your reports.

OPERATION

This section is to get you on the water quickly doing high quality aids verification and discrepancy reporting. Refer to other sections for any details that are not clear. Remember, you must be AV-PQS qualified to do verifications, but any Auxiliarist can report a discrepancy. AVA can help you do both easily.

You should have done your basic settings - *District, CGForm*. You will need to add your *Coast Guard Information* and *Member Information*. Your FSO-NS can supply the details for your flotilla's local reporting requirements.

This section assumes you are now ready to go on the water. You can print the Quick Reference at the end of this manual, double-sided on 1 sheet of paper, and take it with you on the boat until you are thoroughly familiar with **AV Assistant** operation. Every verification or discrepancy will proceed much like you have learned in Getting Started above, but reports will be made in live mode, and you will be responsible for the accuracy of your reports.

Caution:

AV Assistant, which provides data on navigation aids and marine charts, is not intended to be used in place of charts or Coast Pilots. Charts should be consulted for the location of all aids to navigation. It may be dangerous to use aids to navigation without reference to charts.

PRE-SURVEY

Before you go out to check aids, make sure you have the latest data sources, Test Mode is turned off, and you have printed the Light List page(s) for the channels you will be surveying. Do not rely on a cell connection while on the water. Even though you are doing all the work on AVA and AVA keeps track of the aids you have surveyed, printing the weekly Light List (www.navcen.uscg.gov) pages you need is still useful as a checkoff list, making notes on, and to look up lights that might be overlapping or in the wrong location, and therefore not visible on AVA's map.

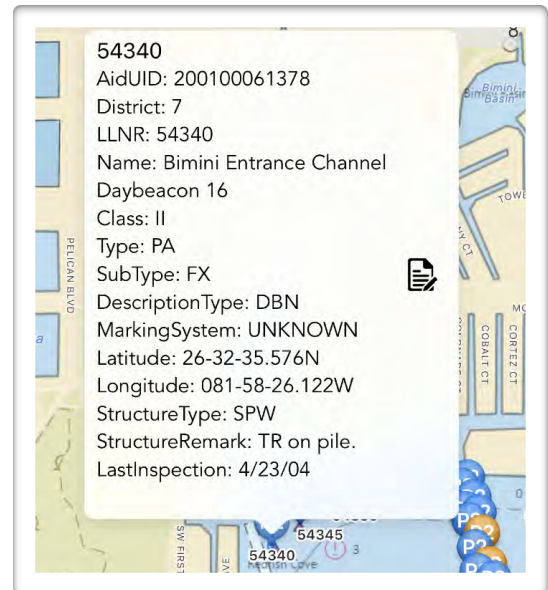
Pre-Survey

- Charge your batteries
- Start AVA to download latest data sources
- **Turn off Test Mode**
- Print Light List pages for the channels being surveyed
- Grab a clipboard/notebook and pen/pencil for backup

KEY INFORMATION

Aid Information Callout

- Tapping on an aid will bring up an information callout with all the current Light List and LNM information for that aid. A document icon appears on the right side.
- The **bearing** and **distance** to the aid now appears in the Location Bar. Tap on the document icon to proceed to the Report page for this aid. The Local Notice to Mariners information is shown only if there is an active LNM for the aid.



Missing Aids

If you arrive at the site of an aid using AVA, and there's a pin there, but there's no aid, don't automatically report it missing. Check your chart or chart plotter for the aid symbol at that location. If the chart matches, then the aid may have the wrong location in the Light List or USAIMS. Try a search for the aid's LLNR (here's where the printout of the channel can help) and see if the latitude and longitude is correct. If so, and it's a fixed aid, it may really be missing. If it's a buoy, it may be stranded on shore or may have floated off.

If the Light List location is wrong, the correct way to report this is to find the correct marker, start your report from the aid information block, and then take a position fix where you found the aid.

Unrecognized Aids and Class III Aids

With the new USAIMS data, Class III aids (with latitude and longitude) now appear on the map and are reportable like any other aid. If you come across an unexpected aid that does not show on AVA, check your chart or chart plotter, as NOAA has their own database. If it is on the chart at your location but not on AVA, then it may be a Class III aid which has no latitude or longitude (these are piled up at 0,0 off Ghana, Africa). There is a special process for reporting these class III aids correctly - see the Reference section later in this manual for more information.

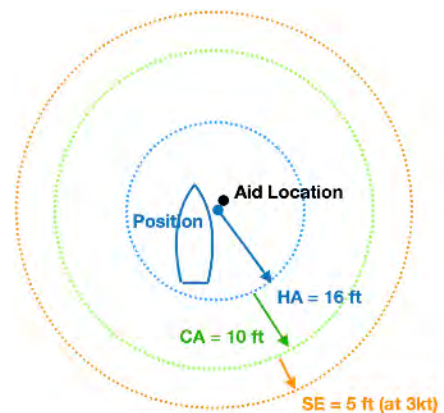
If no matching aid is found despite your best efforts, tap **UA** in the taskbar. This will start a 7054 discrepancy report for an unauthorized aid. You will need to fill in all aid details since the Light List has no information in this case. This report should be held back from others until you are sure of your findings.

Do NOT report missing or unauthorized aids in a channel until you are sure you have accounted for all the known aids in the channel. See the post 'Redfish Cove Channel Case Study' on the AVA website to understand the reason for this caution.

Getting the Best Possible Position Fix

As a general practice for potential off-station findings, it is important that **you always strive for contact with the aid at a dead stop** for the best possible position fix.

To illustrate, you are standing at the starboard bow quarter with your GPS. Due to timing errors, your actual GPS position reading could be anywhere within the blue circle. There is a 50% confidence, given your HA (horizontal accuracy), that you are within the blue circle. To get to 98% confidence, using 2DRMS ($2.4 * HA$), the blue circle is even bigger, and getting close to the aid becomes even more important.



When you approach the aid, your GPS position reading could be anywhere in the green circle, because it is expanded by the distance of closest approach (CA).

Making contact with the aid eliminates this error.

If you are still moving when you take your reading, a speed error (SE) is introduced because of the sampling interval of your GPS. In addition, motion introduces timing errors and your HA will be worse. **Coming to a dead stop eliminates this error**, and remaining at a stop for 15 seconds reduces your HA as well.

Closest Approach (CA)

As you approach an aid, how closely you can approach depends on your boat, depth, wind, and current conditions. It is important to get as close as you can safely approach, generally going into the wind or current if the depth permits, and take your reading while going very slowly or stopped. You may need to wait for better weather or utilize a smaller boat for more accurate readings.

For safety reasons, never hold your phone or device (or any part of your body) over the side of the boat to get a fix. Come alongside and choose **1-5 feet** for your closest approach, or use an external Bluetooth GPS on the end of a pole for **contact** readings.

After you have taken a position fix, you will be asked for your closest approach. You can change this if necessary.

Closest Approach to Aid (ft)

Contact

1-5

6-10

11-20

21+

If your closest approach is over 21 feet, AVA will insert "POSITION APPROXIMATE" in the comments. This is the correct selection for a missing aid since you don't actually know where it is.

Note: the screenshot generated by AVA when you start a report on an aid **does not** include CA since AVA does not yet know what CA is, until you take your position fix, and assumes CA=0.

Speed Error (SE)

When you take a Position Fix, AVA records the speed you were traveling at, and includes that in the comments at the bottom of your 7054 report.

The Speed Error (SE) is the additional error introduced from the GPS 1 Hz update rate (every 1 second) while moving. AVA now includes this in the off-station calculations. **Coming to a dead stop eliminates this error.**



Reporting Not on Assigned Position

While AVA will notify you that an aid is off station, keep in mind that you also need to observe if the aid is marking **best water**. This may require checking and documenting the depth profile across the channel.

From **COMDINST 16500.1D, Positioning & Range Surveying**, the manual states:

However, placing an ATON at a specific geographic location is secondary to ensuring the ATON's actual location best marks the waterway and serves the purpose for which it is intended.

Based on your observations, including depth, you should make a recommendation as to whether the owner should update the location on their CG-2554 (aid is marking best water), or the owner should be contacted to move the aid (not marking best water) and update the location on their CG-2554. If you are not sure of best water, don't report it as off-station (Not on AP) - just report on the other characteristics of the aid. Please note the Coast Guard ANT and Waterways (dpw) are responsible for making this determination and notifying owners - you can only make a recommendation.

In general,

Not on Assigned Position AND Not Marking Best Water

—> Owner should move the aid and update their CG-2554

Not on Assigned Position AND is marking best water

—> Owner should update their CG-2554

Reporting Strategy - At Home

AVA will email all your reports to the email address in *Settings*, which should be YOUR email address. If you did not have a connection on the water, your device will automatically send the queued emails when your device reestablishes a WiFi connection at home.

Even with practice, you should take the time to review your reports before forwarding up the chain. Do this as soon as you get home - it doesn't take long with AVA. If you reported more than once on the same aid, which can happen if you decide to do an aid over to get it right, first delete any earlier reports on that aid to avoid any later confusion.

Open each PDF and read the report, look at the photos, look at the selections on the 7054 to make sure they match what you saw. Photos are worth a thousand words. If possible, try to let your photos do the talking and refrain from adding more comments in post-survey editing unless they are absolutely necessary. Any comments should be added on page 2.

In the past, commentary was often encouraged to add detail and "weight" to a report, which was needed with manual methods. However, with AVA, data integrity and photos speak volumes, and more commentary does not add "weight" to your report. Get up to the aid, take accurate position fixes, take good photos, and you should not need to add much in the way of comments. You may find it easier to dictate the comments rather than type them.

If you find yourself changing selections post-survey, please make a note to yourself to get it right on the water next time. AVA will be generating a data file in the future for automated data input into USCG systems - when you change the PDF, you will create a mismatch between the PDF report and the data file. Some fields already cannot be changed on the 7054 for data consistency, and more fields may be locked down. Make it a habit **now** to get it right (photos and necessary comments) the first time while you are at the aid and check before you leave.

Once your reports are ready, follow your FSO-NS instructions on reporting verifications and discrepancies and file your AuxData reports. For an easy way to count up your Vs and Ds, search your inbox for 7054V emails and count up the ones for the day and then do the same for 7054D.

REFERENCE

(click on a heading to go directly to that page)

| | |
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| Main Page | 26 |
| Report Page | 29 |
| Photos Page | 38 |
| Preview 7054 Page | 40 |
| Email Page | 41 |
| Light Sets | 42 |
| Search | 44 |
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| Settings | 46 |
| Quick Reference - Screen Guide | 51 |
| Quick Reference - On the Water | 53 |

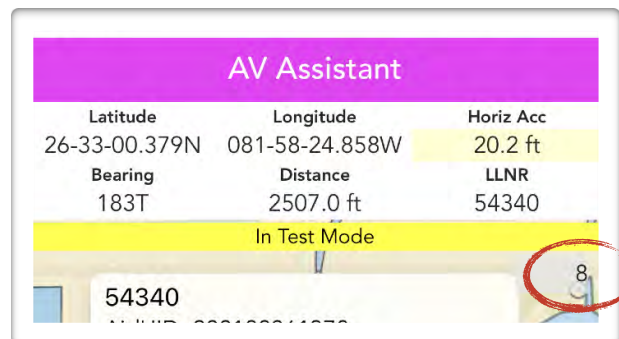
MAIN PAGE

The main page of AV Assistant has three elements - a location bar across the top of the page, a map covering the remainder of the page, and a task bar across the bottom of the page. There is also an age element just below the LLNR.

Location Bar

The location bar floats on top of the map and has 6 elements in 2 groups.

- Group 1 - Current Location
 - Latitude
 - Longitude
 - Horizontal Accuracy (in ft or nm)
- Group 2 - Guidance to Aid (when activated)
 - Bearing (in degrees True)
 - Distance (in ft or nm)
 - LLNR (Light List reference number of aid)



Group 1 is always active and shows your current location and accuracy.

Group 2 becomes active when an aid is tapped, and provides guidance information to locate the aid. This information helps locate the correct spot, particularly if the aid is missing, and the tracking remains active until another aid is selected.

The background of the **Horiz Acc** number changes color depending on status - *white* (the error is less than 6 meters or 20 feet), *yellow* (the error is between 6 and 30 meters), or *red* (the error is over 30 meters or 100 ft).

There is an age display just below the LLNR. This is the number of seconds (usually in 1 sec increments) since the last GPS update and is usually no more than 1 on the water (open sky). If this starts becoming quite long, it is an indication that GPS tracking may have been lost indoors, under large bridges, or inside a cabin. Colors - *white* (less than 15 seconds since the last update), *yellow* (between 15 and 30 seconds since the last update), *red* (more than 30 seconds since the last update).

The status bar sits below Group 2 and is yellow in Test Mode and blue in live mode. Status information includes *In Test Mode*, poor GPS signal, when new data sources are available, and sequencing information as AVA updates the map.

Map

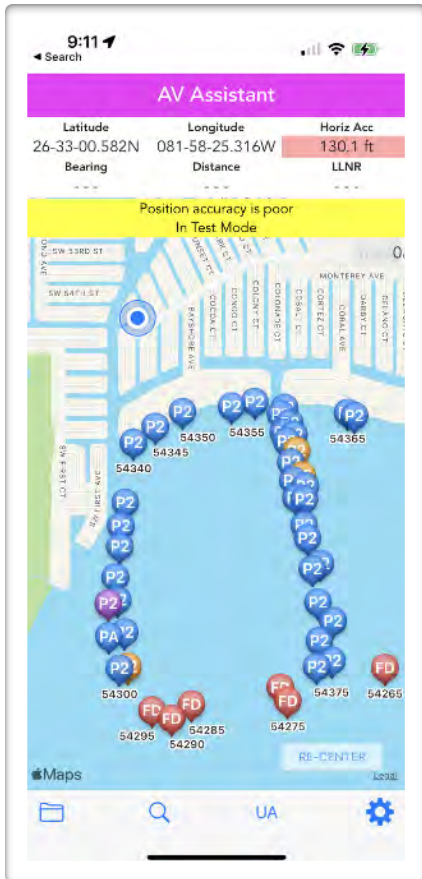
The map style can be selected in *Settings/General Information/Map Style*.

Standard is a land map but the geographical information will be close enough to orient yourself to the map. All the aids are shown as pins on the map. Pan the map with one finger, or zoom in and out by pinching or spreading two fingers. Zooming in will resolve overlapping aids into individual aids.

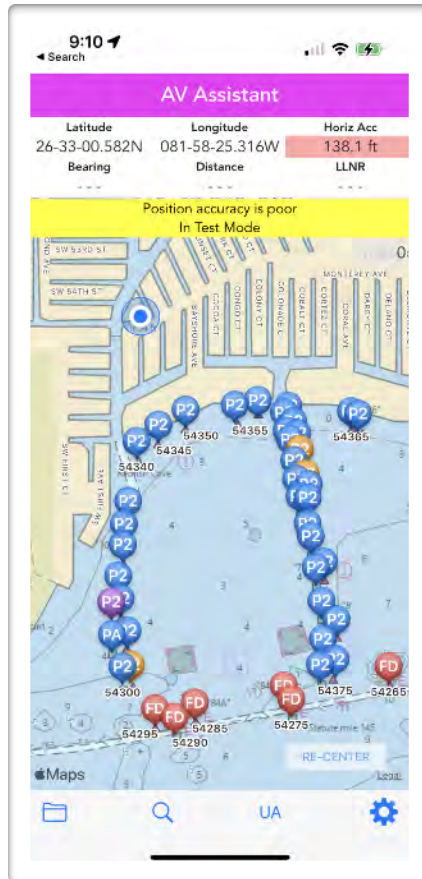
Chart is a land map with NOAA ENC chart tiles overlaid on the map. The chart tiles only cover the immediate area to conserve memory, but as your location nears the edge of your AOI, the chart will be regenerated to cover your location. Zooming in too far, however, will result in the chart disappearing due to the nature of chart tiling.

Satellite is a satellite view map. This can sometimes be useful to orient yourself to landmarks, or when the channel can be seen in shallow water in the satellite image, but it may slow your device's response.

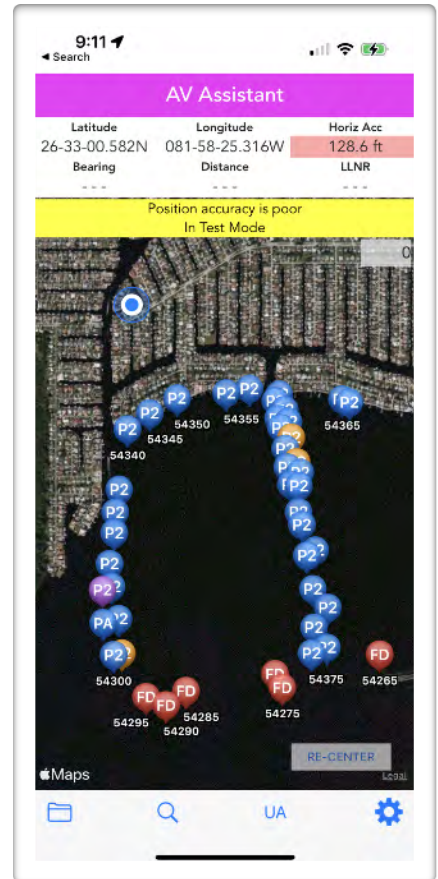
When *CGForm* is set to **ANSC-7054B**, the Map Style automatically changes to *Chart*.



Standard








Chart



Satellite

Pins

-  Blue pin - private aid (PA, P1, P2, P3)
-  Red pin - federal aid (FD)
-  Orange pin - PA or FD, has Local Notice to Mariners (LNM) notice
-  Green pin - PA or FD, reported aid (breadcrumb trail)
-  X pin (darker green) - (PA or FD) corrected aids, tied to green pin

Aids you have reported may appear green in a breadcrumb trail as you report them. The green report pins (and correction pins) can be turned off in Settings, and the report log can be deleted as well. If there is a line to an X pin, the aid is **Not on Assigned Position** and X marks the spot of the new position fix.

If you have selected an aid, a line appears from your present location to the aid. Your present location is marked with a pulsing blue dot when Test Mode is OFF. When you are in Test Mode, there is a yellow TL marker at the test location.

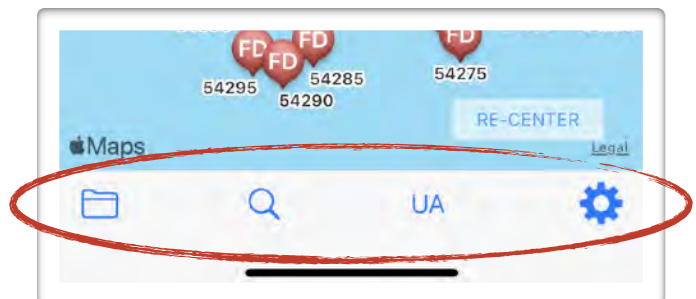
A **Re-Center** button appears in the lower right corner of the map if you move the map. Tapping this button will re-center the map with the current location in the middle.



Task Bar

The task bar, at the bottom of the page, has four icons, covered in subsections to follow.

- folder (Light Sets, aka Channel View)
- magnifier (Search)
- UA (Unrecognized Aid)
- gear (Settings)



REPORT PAGE

Tapping on the document icon at the right of the aid information block causes AVA to transition to reporting mode. If CG Form does not have the correct value, then AVA generates a report similar to the NAVCEN's ATON Discrepancy Report Form at <https://www.navcen.uscg.gov/contact/aton-discrepancy-report>.

For CG and Aux use, set CG Form to 'ANSC-7054B', all caps, no spaces (without the single quotes).

Type of Report

Type of Report - Verification or Discrepancy. Tapping either causes changes to the following items:

- Report Date - set to today's date
- Urgency of Report - set to Routine by default
- CG Unit Notified - copied from Settings
- Date/Time Observed - set to today's date and time
- Method of Report - set to Email by default
- Date/Time Reported - set to today's date and time

This autofill operation simplifies the report process.

Coast Guard Reporting

Report Date - set to today's date when Type, Urgency, or Method of Report is chosen. This value can be edited later.

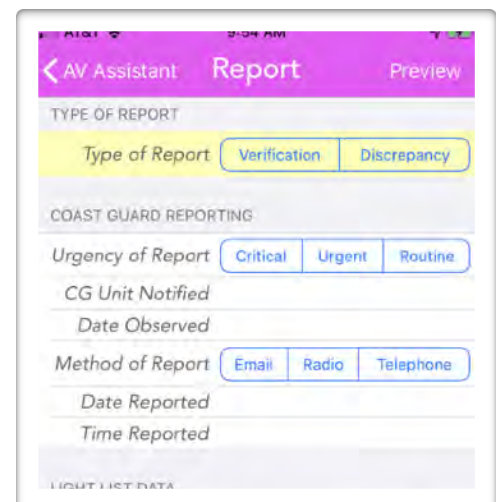
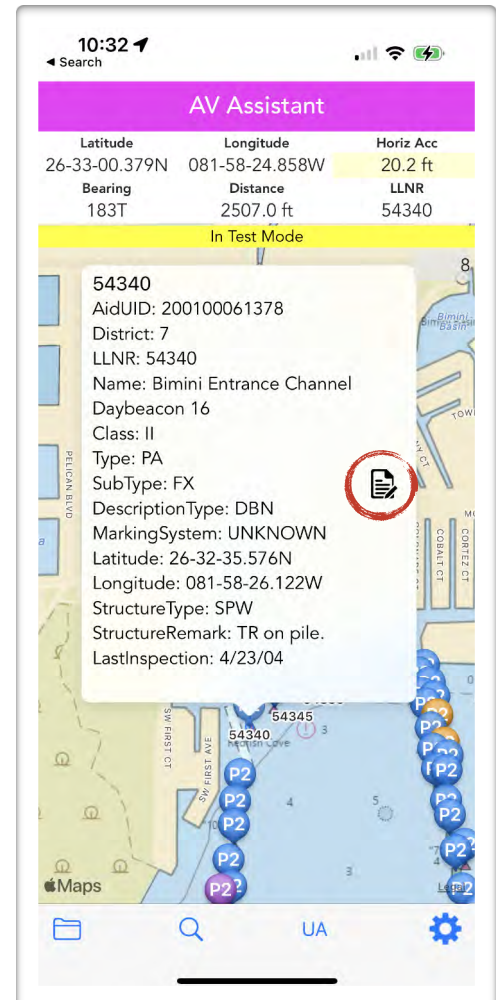
Urgency of Report - urgency depends on a number of factors, including local practice. Consult your AV training documents or your FSO-NS.

CG Unit Notified - copied from Settings based on the Urgency of the Report.

Date/Time Observed - set to today's date and time when Type of Report is chosen. These values cannot be changed in post-editing.

Method of Report - the method depends on the urgency of the report. Consult your AV training documents or your FSO-NS.

Date/Time Reported - set to today's date and time when Type, Urgency, or Method of Report is chosen. These values can be edited later.



Light List and USAIMS Data

AVA will automatically fill in this information from USAIMS or the Light List. The information shown reflects the source of the data. USAIMS data, when available, is shown instead of Light List data.

Federal ATON information comes from the Light List. Private ATON (PATON) data now comes from USAIMS.

Aid Characteristic - description of lights

Aid Class - the aid class designation

Aid Name - the aid name

Aid SubType - FX (fixed) or FL (floating)

Aid Type - FD (Federal) or PA (private aid)

Aid UID - the unique identifier of an aid

AP (Assigned Position) - the recorded lat/lon

Description Type - e.g. DBN (daybeacon) or FL (floating)

District - USCG District

Ice Conditions - ice conditions

Last Inspection - the date of the last inspection

Light Color - the color of the lantern

LLNR - Light List number reference

Marking Color - the color of the dayboards

Marking System - e.g. IALA B

Next Inspection - the date of the next inspection

RACON Morse Char - the character transmitted

Season From Date - the date by which the aid is expected to be on station

Season To Date - the date after which the aid may be removed from station

Sound Emitter Type - the sound made by the aid, e.g. horn, gong, bell, etc.

Structure Height - height of structure

Structure Remark - notes on aid, e.g. SG-SY on pile.

Structure Type - e.g. SPW (Single Pile Wood)

| Light List Data | |
|------------------|-------------------------------|
| Aid UID | LLNR 53965 |
| Aid Name | Caloosahatchee River Light 73 |
| Type | FD |
| AP Latitude | 26-32-27.460N |
| AP Longitude | 081-56-23.735W |
| Characteristic | Q G |
| Night Day | NIGHT |
| Height | 16 |
| Range | 4 |
| Structure Remark | SG-SY on pile. |

Light List source

| Light List Data | |
|------------------|--|
| Aid UID | 200100715296 |
| Aid Name | Bunces Pass Obstruction Daybeacon F |
| Aid Class | III |
| Type | PA |
| SubType | FX |
| Description Type | DBN |
| Marking System | IALA B |
| Marking Color | WO |
| AP Latitude | 27-38-53.738N |
| AP Longitude | 082-43-28.257W |

USAIMS source

Local Notice to Mariners

AVA will automatically fill in this information from the Local Notice to Mariners report for this aid.

LNМ Summary - short description of discrepancies

Aid Identification

AVA will attempt to infer these fields based on information from the Light List. However, it is your responsibility to check and make sure this information is correct.

Mile Marker - generally used only in D8WR (Western Rivers)

Ownership - select from CG, State, Private, or Other (nearly always CG or Private)

Type of Aid - select Buoy or Fixed

Lighted - select if aid has a light

Sound Capability - select if aid can make sound (Horn, Gong, Whistle, etc)

Electronic Devices - select if aid has one

Radar Reflector - select if aid has one

Buoy Structure - select the correct material from Wood, Metal, Foam, Plastic, Other. Choose the primary structural material - a foam-filled plastic buoy would be Plastic, not Foam.

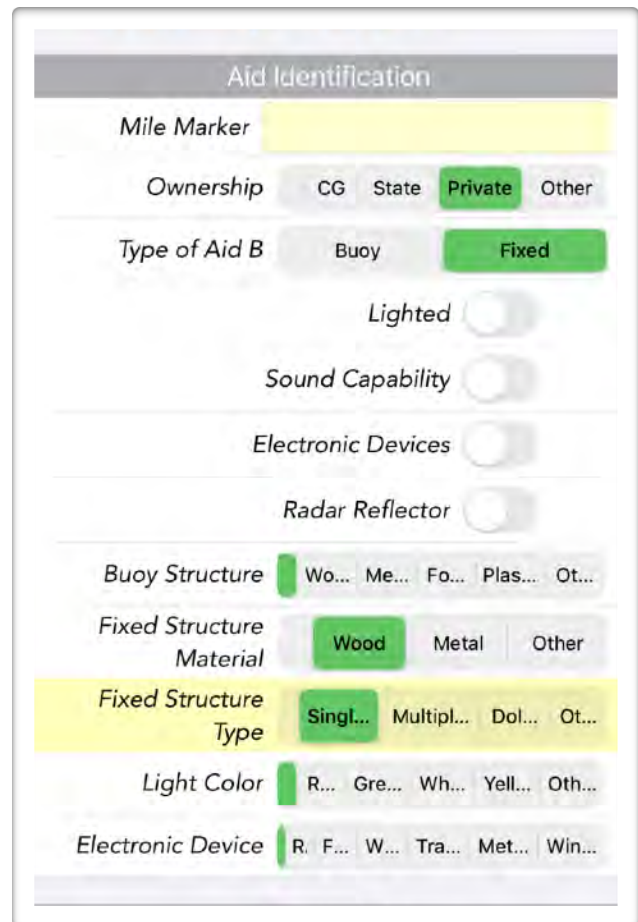
Fixed Structure Material - select from Wood, Metal, Other

Fixed Structure Type - select from Single Pile, Multiple Pile, Dolphin, Other

Light Color - select from Red, Green, White, Yellow, Other

Electronic Device - select from RACON, Fog Detector, Wind Generator, Transformer Station, Meteorological Station, Wind Measurement Mast - if more than one, choose the primary function and explain in comments.

Tip: if you have trouble reading the options on a small device, temporarily rotate the device to make your selection.



Position Fix

AVA will automatically fill in the fix information from live GPS data when the **Position Fix** button is tapped (bottom left corner of the taskbar on the Report page). In Test Mode, the latitude and longitude of your live data is replaced by your test location, as in the image at right.

The GPS hardware used will be your external Bluetooth GPS (defined in Settings) if you have one connected, or your internal GPS if you have a phone or cellular iPad (even if it does not have an active SIM). A WiFi-only iPad does not have GPS hardware and needs an external GPS.

| Position Fix | |
|------------------------------|---|
| Fix Time | 1548 |
| Fix Latitude | 26-32-10.329N |
| Fix Longitude | 081-58-11.399W |
| Fix Horizontal Accuracy (ft) | 16.4 |
| Fix Distance from AP (ft) | 2005.3 |
| Fix Age (secs) | 0 |
| Fix Speed (Kt) | 0.0 |
| Fix Source | Ext. (Garmin GLO2) |
| Closest Approach to Aid (ft) | <input type="button" value="Cont..."/> 1-5 6-10 11-20 21+ |

Note: The position fix is taken where your actual GPS hardware is - for a Bluetooth GPS, this may be out at the end of your pole, regardless of where your iPhone or iPad is.

Fix Time - date and time of fix

Fix Latitude - latitude of fix (replaced by your test latitude when in Test Mode)

Fix Longitude - longitude of fix (replaced by your test longitude when in Test Mode)

Fix Horizontal Accuracy - the reported horizontal accuracy of the GPS fix, in feet

Fix Distance from AP - the distance from the Light List assigned location to the fix, in feet

Fix Speed - how fast the GPS was going at the time of the GPS fix, in knots (vessel speed)

Fix Age - how old the GPS fix was at the time Position Fix was tapped, in seconds

Fix Source - internal or external GPS, if external, the value in Settings/External GPS is used

Closest Approach to Aid - This is the distance from your GPS (see note above) to the aid, in feet.

Coming to a dead stop and making contact with an aid provides the best possible fix and the most confidence in the report, particularly when the assigned position (AP) in the Light List must be updated as a result of the report. Using a Bluetooth GPS on a boat hook or pole makes this easier. If you cannot approach due to weather conditions or shallow water, make sure you set the appropriate distance. If the aid is missing, choose 21+ since you do not actually know where the aid is. This generates a POSITION APPROXIMATE comment in the report.

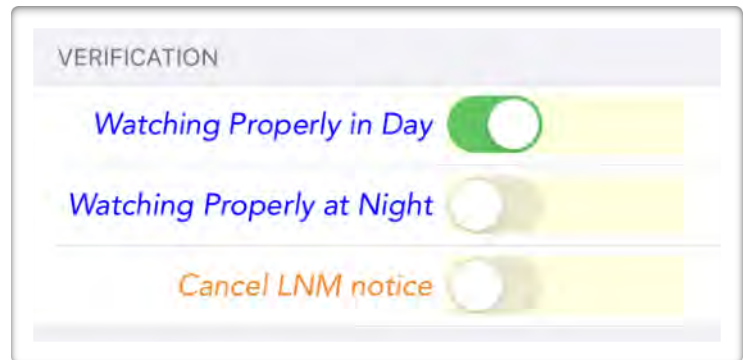
Verifications

While there are no checkboxes on the 7054 form for verifications, AVA provides several virtual checkboxes (text in blue, or orange for LNM) for convenience - these cause the appropriate wording to be inserted into the Comments of the 7054 form, eliminating typing.

Watching Properly in Day - causes same wording to be inserted into the Comments (automatic if Verification is selected).


Watching Properly at Night - causes same wording to be inserted into the Comments. You must do this manually.


Cancel LNM Notice - only used if there is an LNM notice attached - causes same wording to be inserted into the Comments (automatic if Verification is selected).



Discrepancies

Discrepancies in AVA are grouped into major categories, matching the National 2-page 7054 form.

 This symbol indicates that you may need to add clarifying comments.

 This symbol indicates that you may need to take a detail photo to show the condition.



Location Discrepancies

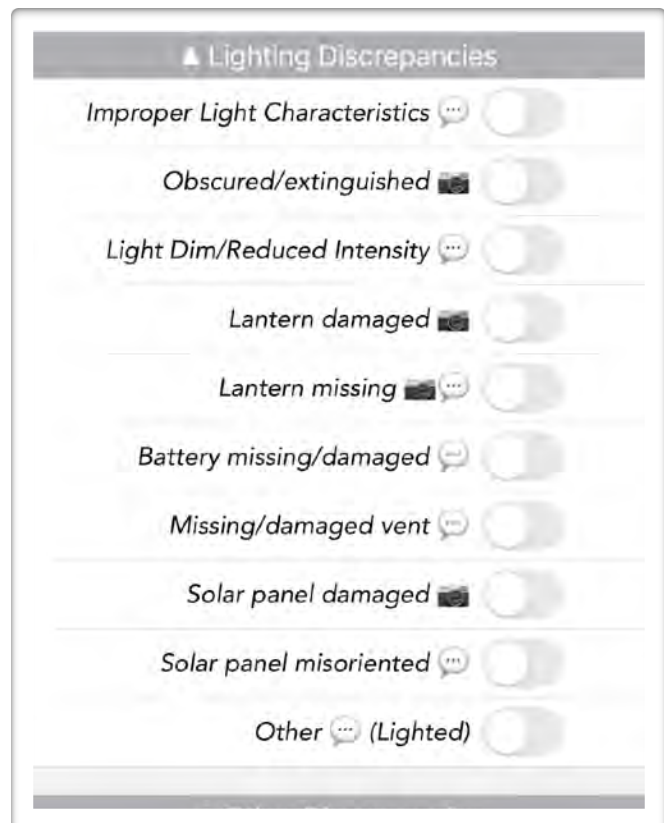
Location discrepancies match the corresponding drop-down box entries on the 7054 form and are explained in AV materials and teaching aids. If multiple selections are made, only the first appears in the drop-down box on the 7054. However, the same wording is inserted for each selection on the second page of the 7054. You can use these as a starting point to add comments.

If you are reporting **Not on Assigned Position**, you should be 100% certain you are reporting on the correct aid, and you should try to come to a dead stop (or within 1-5 feet at most) at the aid and make contact with your GPS device (a Bluetooth GPS attached to a pole is safest) when you take your position fix. In addition, you should attempt to establish whether the aid is marking best water and document that in your comments. Equally, aids that are present in the channel but have no pin in AVA require special treatment (see Unrecognized Aids in this manual).



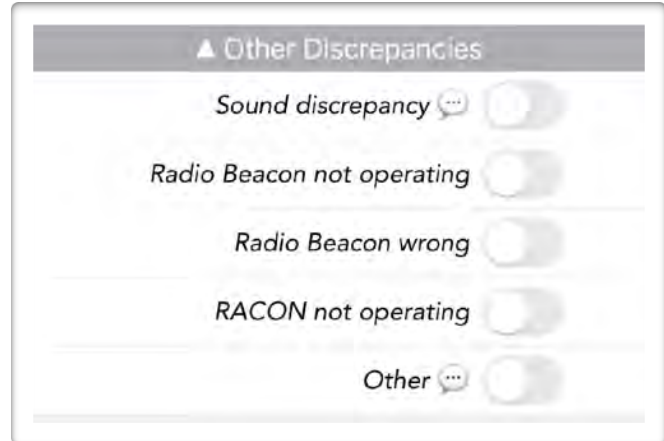
Lighting Discrepancies

Lighting discrepancies match the corresponding drop-down box entries on the 7054 form and are explained in AV materials and teaching aids. If multiple selections are made, only the first appears in the drop-down box on the 7054. However, the same wording is inserted for each selection on the second page of the 7054. You can use these as a starting point to add comments.



Other Discrepancies

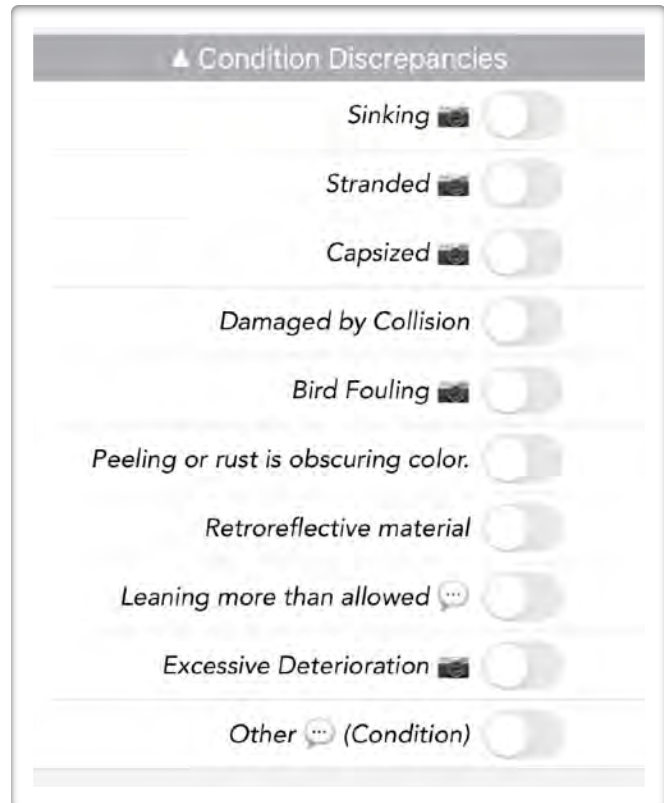
Other discrepancies match the corresponding drop-down box entries on the 7054 form and are explained in AV materials and teaching aids. If multiple selections are made, only the first appears in the drop-down box on the 7054. However, the same wording is inserted for each selection on the second page of the 7054. You can use these as a starting point to add comments.



A screenshot of a settings panel titled "Other Discrepancies". It contains five toggle switches, each with a text label and a speech bubble icon. The labels are: "Sound discrepancy", "Radio Beacon not operating", "Radio Beacon wrong", "RACON not operating", and "Other". All toggle switches are currently turned off.

Condition Discrepancies

Condition discrepancies match the corresponding drop-down box entries on the 7054 form and are explained in AV materials and teaching aids. If multiple selections are made, only the first appears in the drop-down box on the 7054. However, the same wording is inserted for each selection on the second page of the 7054. You can use these as a starting point to add comments.



A screenshot of a settings panel titled "Condition Discrepancies". It contains ten toggle switches, each with a text label and an icon. The labels are: "Sinking" (with a ship icon), "Stranded" (with a ship icon), "Capsized" (with a ship icon), "Damaged by Collision" (with a ship icon), "Bird Fouling" (with a bird icon), "Peeling or rust is obscuring color." (with a rust icon), "Retroreflective material" (with a reflective icon), "Leaning more than allowed" (with a speech bubble icon), "Excessive Deterioration" (with a rust icon), and "Other (Condition)" (with a speech bubble icon). All toggle switches are currently turned off.

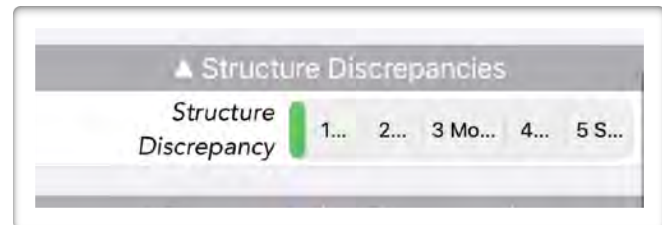
Dayboard Discrepancies

Dayboard discrepancies match the corresponding drop-down box entries on the 7054 form and are explained in AV materials and teaching aids. If multiple selections are made, only the first appears in the drop-down box on the 7054. However, the same wording is inserted for each selection on the second page of the 7054. You can use these as a starting point to add comments.



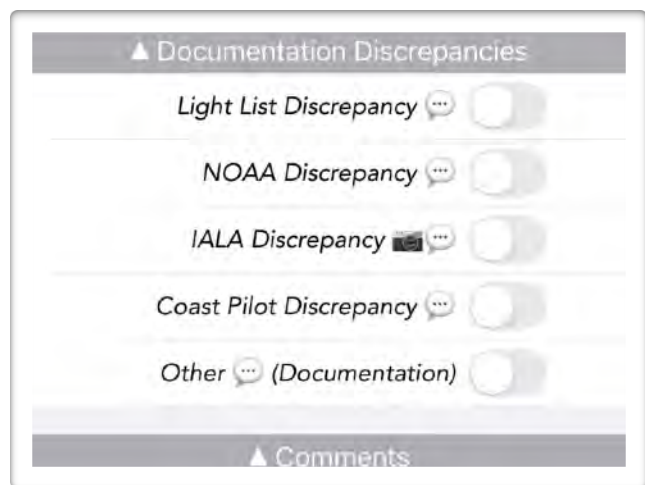
Structure Discrepancies

Structure discrepancies match the corresponding drop-down box entries on the 7054 form and are explained in AV materials and teaching aids. If multiple selections are made, only the first appears in the drop-down box on the 7054. However, the same wording is inserted for each selection on the second page of the 7054. You can use these as a starting point to add comments.



Documentation Discrepancies

Documentation discrepancies match the corresponding drop-down box entries on the 7054 form and are well explained in AV materials and teaching aids.



Comments

Put your general (and brief) comments in this section. If the keyboard obscures part of this field when you begin, try dismissing the keyboard with a swipe up or down above the keyboard, and move the comment field a bit before tapping in the field again. **Tip:** Some users find it considerably easier to use dictation to enter comments on a boat.



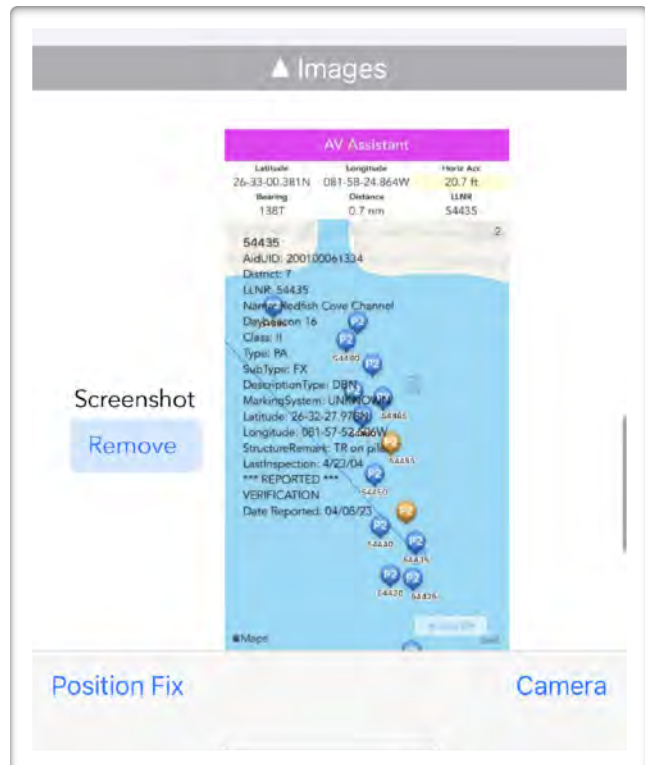
Images

All photos taken by AVA are shown in this section. Each photo can be removed if it does not contribute to the report.

Map Screenshot

When beginning a report, AVA will take a screenshot of your chart and include that in your report. This feature can be controlled by the settings [Include Map Screenshot in Report](#) and [Screenshot Scale](#), which should be between 0.002 and 0.02.

There is a 2-second delay after tapping on the document icon in the aid information box and changing to the report page.



Position Fix

Tapping Position Fix will cause AVA to read its latest location. If you have an external GPS, enter its make and model in Settings/External GPS.

AVA will automatically detect whether your GPS reading is coming from the device's own GPS or an external GPS and insert that information into the report.

Camera

Tapping Camera will enable the device's rear-facing camera for taking photos of the aid. These photos are automatically inserted into the report.

PHOTOS PAGE

Tapping on **Camera** in the bottom right corner of the Report page taskbar brings up the *Photos* page, with a live preview showing some aid data at the upper left corner of the page.

A camera icon button appears at the lower central part of the live preview, along with a Cancel button at the bottom left corner. An outline bracket appears, with a blue line at the bottom representing the waterline of the aid.

A vertical level guide in yellow also appears over the aid with a tilt readout on the right (moved in 2.7.4-80, not shown here). If you come across a leaning daybeacon, you can rotate the phone so the aid is framed in the outline. The yellow line will remain vertical and the angle of lean is shown in the center. If the angle exceeds *Max Leaning* in Settings, the number turns red. If the photo is saved (green checkmark), the report automatically becomes a discrepancy.

Compose the aid in the photo, making sure to include the full aid, from the top of the aid to the waterline. Ideally, the photo will be slightly to the side, so the aid number is clearly visible, but the presence or absence of the second dayboard is also clearly visible.

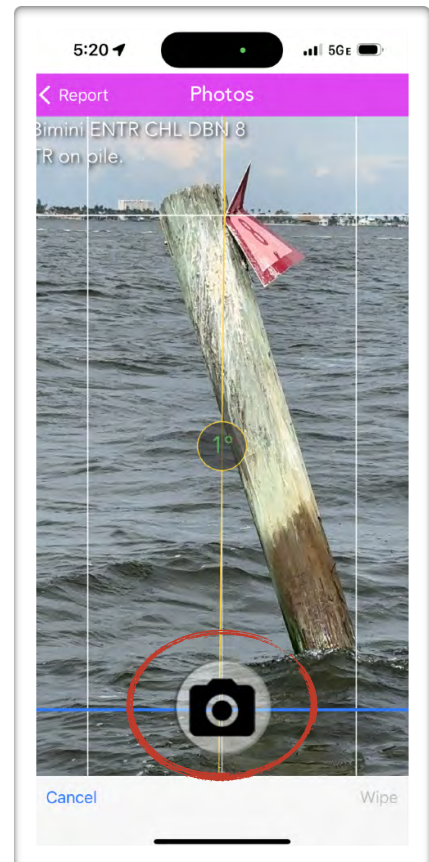
Tap the camera icon to take a photo. The photo then replaces the live preview, and the tilt sensor information is preserved as well.

You can draw on the photo with your finger if it is helpful to point out any discrepancies. If you need to start over, tap the Wipe button in the bottom right corner.

When finished, tap **the green checkmark** (bottom right corner of photo) to conclude and return to the Report page. This action accepts the photo and includes it in your report.

Remember - a photo is a 2-step process. Take it and accept it.

Tapping *Cancel* or *<Report* will take you back to your report but the photo will **not** be saved as part of your report.



At right is a completed photo from a real report - note the additional information registered on the photo including the file reference, aid name, position fix, camera location, direction of camera, distance to position fix, distance to AP location, and lean information. This photo documents the aid but is not tilted. If the aid was leaning more than allowed, another photo would be taken showing the degree of lean.

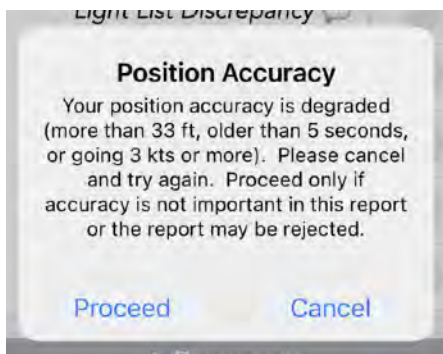
This data block conclusively identifies the photo as belonging to that specific report and aid, and the missing dayboard is visible.



PREVIEW 7054 PAGE

Tapping on **Preview** at the upper right corner of the Report page takes you to the Preview page. On a smaller device, it may be helpful to rotate the device to show the page in full width. You can use one finger to move the page around to see the full content or to scroll the pages up and down.

AVA will then make some checks on required steps (such as taking a position fix) and optional steps (such as checking your position accuracy and whether you may be off-station).



Position Accuracy Check

When these checks are complete, the 7054 preview will be shown (example at right). This preview includes all the pages that will be in the report, including a screenshot and photos.

DO NOT - repeat - DO NOT make any last minute changes on this preview - any changes here will not be reflected in the report log saved on your device, and will be lost if you return to the Report page. As well, any additional supporting files generated by AVA will not match the changed PDF.

If you spot something that needs to be changed, return to the Report page (tap **<Report** at upper left) and make your changes there.

A green background indicates a Verification while a red background indicates a Discrepancy.

ANSC 7054 (05-20) AIDS TO NAVIGATION REPORT

SECTION I - MEMBER INFORMATION

MEMBER NUMBER: _____ LAST NAME, FIRST NAME AND INITIAL: _____

REPORT DATE: 01/11/22 OPCON: _____ TELEPHONE NUMBER: _____ EMAIL: _____

NUMBER AND STREET: _____ CITY: _____

SECTION II - COAST GUARD NOTIFICATION

COAST GUARD UNIT NOTIFIED: _____ DATE OBSERVED: 01/11/22 DATE REPORTED: 01/11/22

SECTION III - AID OWNER, IDENTIFICATION AND CHARACTERISTICS

AID NAME: Bimini ENTR CHL DBN 16 LLNR: 54340 MILE MARK: _____

POSITION: LATITUDE: 26-32-35.335N LONGITUDE: 081-58-16.434

OWNERSHIP: COAST GUARD (30) STATE (31) PRIVATE (31) OTHER

TYPE OF AID: BUOY STRUCTURE LIGHTED SOUND ELECTRONIC

STRUCTURES: WOOD METAL OTHER _____ SOUND SIGNAL: _____ LIGHT COLOR: _____

SECTION IV - DISCREPANCIES (See instructions for items marked)

COMMON DISCREPANCIES

VANDALIZED* DAMAGED BY COLLISION

IMPROPER CHARACTERISTICS OBSCURED

MISSING* DAMAGED

BIRD NEST FADED

EXCESSIVE BIRD FOULING PEELING PAINT

BATTERY BOX* MISSING VENT VALVE

NUMBER UNREADABLE DAYMARK DELAMINATED

EXCESSIVE DETERIORATION ROTTING WOOD STRUCTURES

LIGHTED AIDS:

LANTERN DAMAGED EXTINGUISHED

OPERATING CONTINUOUSLY LIGHT DIM/REDUCED INTENSITY

BUOYS:

SINKING SUBMERGED OFF STATION* OTHER _____

ADRIFF CAPSIZED STRANDED OTHER _____

GONG MISSING WHISTLE MISSING OTHER _____

COMMENTS:

*** TEST MODE *** DO NOT PROCESS AS A VALID 7054 REPORT

Watching Properly in Day

AP: 26-32-35.576N, 081-58-26.122W

Observed distance from Position Fix to AP: 880.2 ft

Fix within 38.4 ft = 2DRMS(38.4) + CA(Contact) + SE(0.0)

GPS (iPhone 11 Pro - internal GPS)

Ref: LL/LNM 2022-01-05T10:00:37, Files (7054-54340-D7---2022

Previous editions are obsolete

AWAZ 2: 4 Buoy 47

EMAIL PAGE

Tapping on **Email** at the upper right corner of the Preview page will generate an email which will appear in your device's email program. AVA, at this point, is no longer presenting or in control.

The subject line is structured to find reports fast in your mailbox(es):

- Priority - **Critical | Urgent | Routine** (not shown here)
- **7054** - a 7054 report
- **V**(erification) or **D**(iscrepancy)
- the LLNR reference of the aid
- the Aid Name

You can add your own message to the top of this email body before the **###** report header to explain any circumstances or the methodology used - but do not change anything below.

If you are in Test Mode, a warning will be inserted to disregard the message so they will not be processed as live reports.

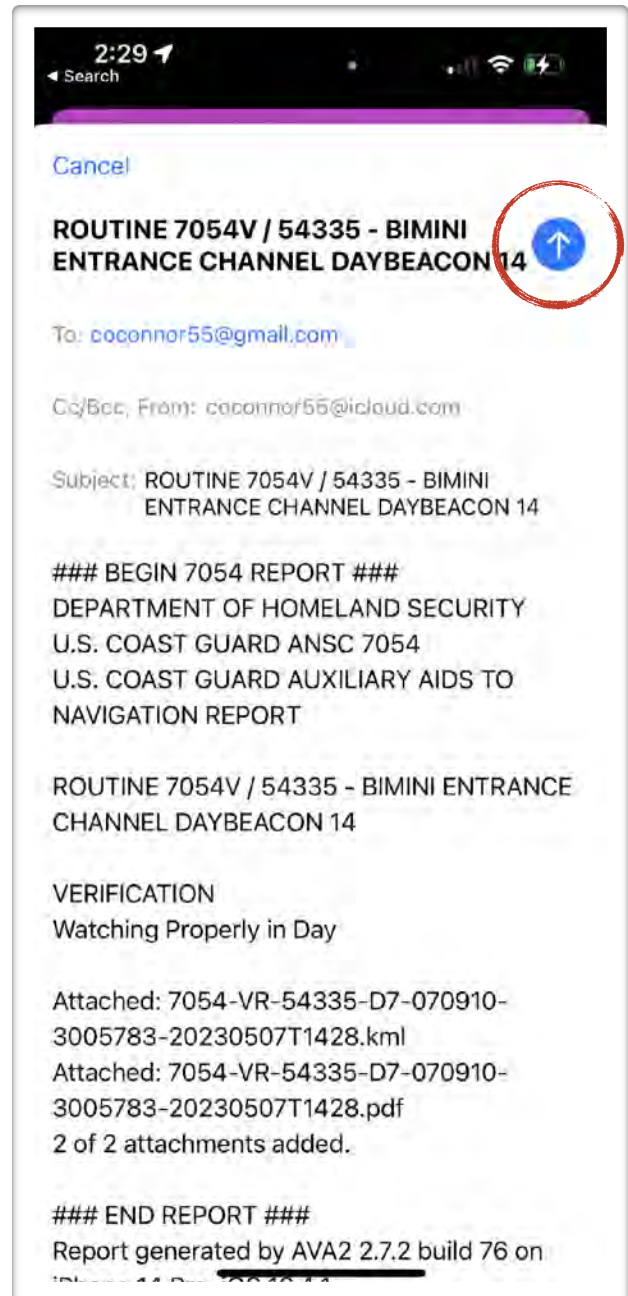
The email is automatically addressed to the email address you entered in Settings. If Settings/Email Address is blank, then you will have to fill in your email address on the To: line every time.

Tap **Send (up arrow)** to email the report.

Note: if you have no connection, your emails are saved and will be transmitted when a connection is re-established.

This action will return control to AVA, resulting in a confirmation, shown at bottom. Tap **Ok** to return to the map, ready for the next survey.

Canceling the email will return you to the Report page where you can make further changes. The mail program may ask if you want to save or delete the draft. You should always delete the draft to avoid later confusion.





LIGHT SETS

The folder icon at the bottom left of the main page shows light sets. As a reminder, “lights” and “aids” are used interchangeably in this document. The Light List includes all aids, whether lit or not.

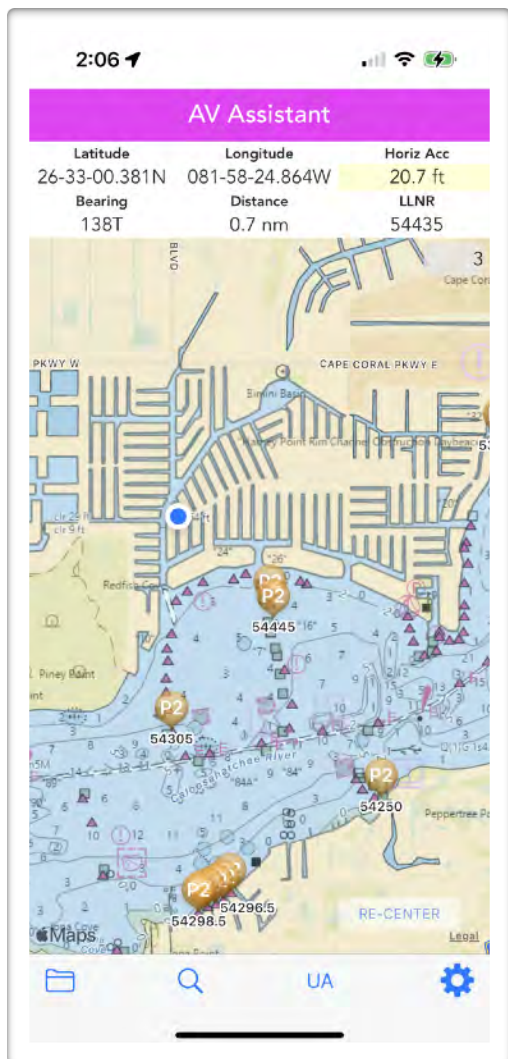
Using light sets selectively can focus your work and make NS surveys easier to run. AVA shows all the aids in the light sets that are turned on. To look at certain light sets, say Class III Aids, turn off all the others. When you return to the map page (<AV Assistant, top left corner), only the aids in the selected light sets will be shown.

The following are source light sets that are always present:

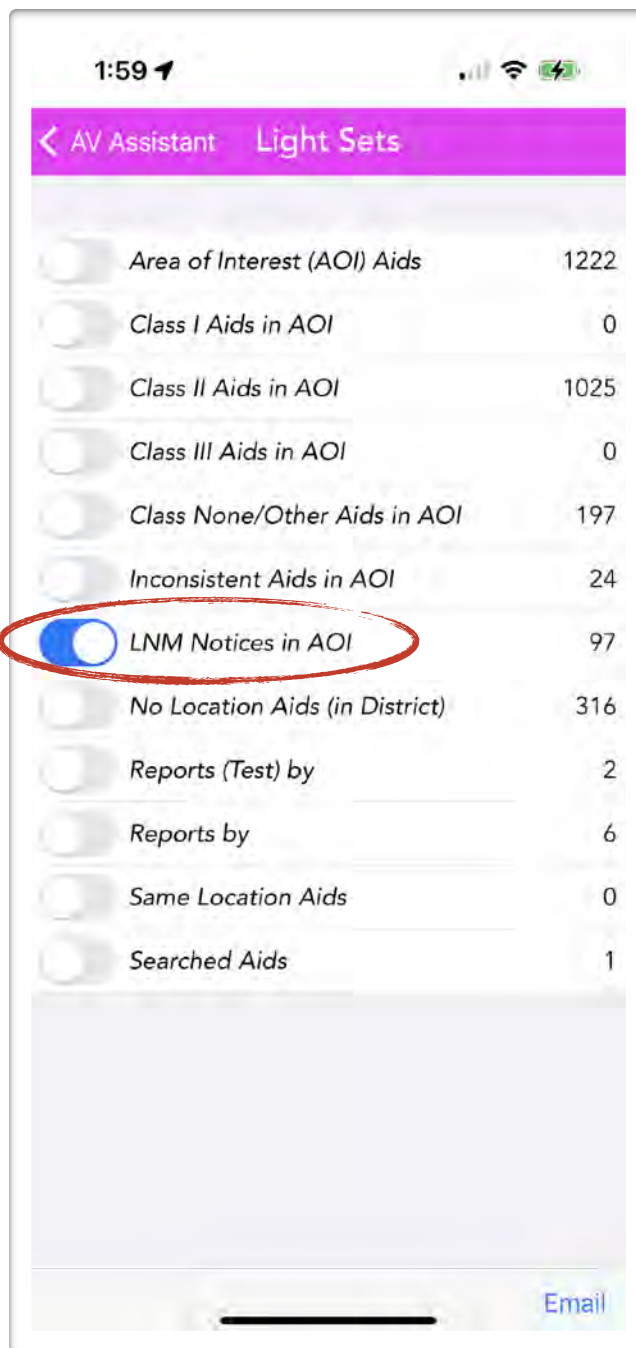
- **Area of Interest (AOI) Aids** - all lights around your location, usually 10 nm by default
- **Class I Aids in AOI** - all Class I lights around your location
- **Class II Aids in AOI** - all Class II lights around your location
- **Class III Aids in AOI** - all Class III lights around your location
- **Class None/Other Aids in AOI** - all lights with no class or other notation around your location
- **Inconsistent Aids in AOI** - all inconsistent lights around your location
- **LNM Notices in AOI** - all lights with an Local Notice to Mariners notice around your location
- **No Location Aids (in District)** - all lights with no location (0,0) in your district
- **Reports (Test) by <member ID>** - all lights you have made reports on while in Test Mode
- **Reports by <member ID>** - all lights you have made reports on in live mode
- **Same Location Aids** - (not populated at present)
- **Searched Aids** - all lights you have previously searched for

Selecting light sets can help when running a survey. For example, you may be asked to go check aids with LNM notices to see if they are up-to-date. Go to Light Sets and turn off all but **LNM Notices in AOI**. You can email this selection, edit the list, and send it for a patrol to survey.

When you return to the map, you will only see orange pins, which designate aids with LNM notices.



LNM Notices in AOI

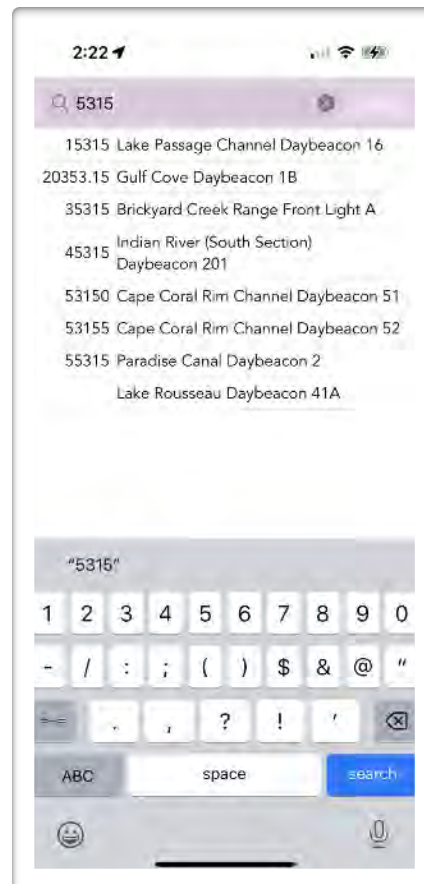
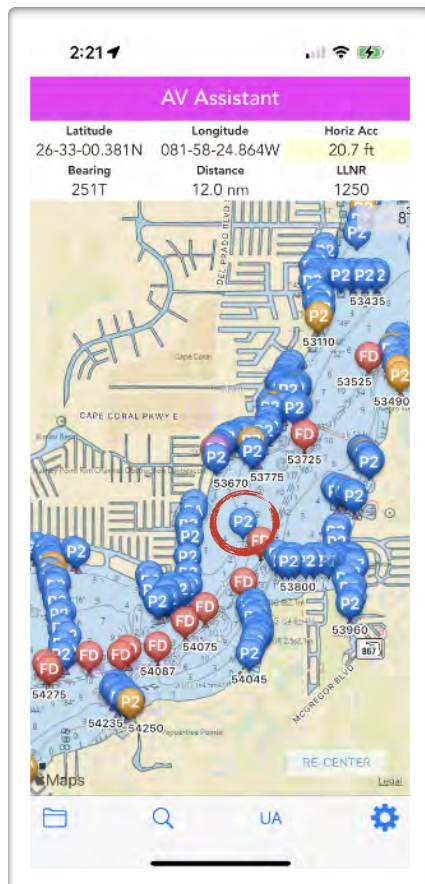




SEARCH

The magnifying glass icon to the right of the folder icon is your search button. Tap this to begin a search, and a search box appears at the top of the page. Tap inside the box and then begin typing the number of a light (either LLNR or UID), the name of a light or its channel, or latitude or longitude. After typing at least 3 characters or tapping the Search button, a list of matching lights appears. You may continue to enter and the list will shorten as you type. When you see the light you are looking for, tap on that line. If the light is in your district, it will be shown. However, it may not be, and you will then see a message to that effect.

This feature is useful for finding misplaced lights where you know they should be in a channel (you have a printed copy of the Light List or the No Location Aids email) but you can't find it on the map where you are - because it has the wrong location (see 53155 in the map below, which is well outside of the channel that hugs the shoreline).





UNRECOGNIZED AIDS

UA is for reporting an unrecognized aid that you have found and are looking at right now, but there is no AVA pin at your location - implying it doesn't exist in the Light List or USAIMS.

A new development owner, unfamiliar with marine laws, may install new daybeacons so that boaters can enter and leave safely, and may not have completed the required USACE and USCG forms, resulting in a series of unauthorized aids.

Tapping the UA icon starts a new 7054 report as a Discrepancy with the Unauthorized aid checkbox already checked. By the nature of unauthorized aids, there is no pre-existing information, and you will need to fill in all aid details.

However - that does **not** automatically mean it is an unauthorized aid to report! You **must** do due diligence and be 100% certain before filing that report. Reporting an unauthorized aid, when the aid is just in the wrong place, can thoroughly mess up a survey.

This may, in fact, be an aid that has the wrong location, or no location, in the Light List or USAIMS. Class III aids often have no location.

If you are in a channel with other aids, do a search on the channel name and see if it could be a channel aid with the wrong location. Check with others who may have local knowledge about aids.

If the aid exists, the correct procedure is to use AVA search to locate it, start your report from there, do a position fix, and declare it as off-station.

UA reports now show up on the map when made (added in 2.7.4-80).

12:42

AV Assistant Report Preview

TYPE OF REPORT

Type of Report Verification **Discrepancy**

COAST GUARD REPORTING

Urgency of Report Critical Urgent Routine

CG Unit Notified

Date Observed 01/30/22

Method of Report Email Radio Telephone

Date Reported 01/30/22

Time Reported 1242

LIGHT LIST DATA

Aid Name Unrecognized Aid

LLNR 0.008

Assigned Latitude 00-00-00.000N

Assigned Longitude 000-00-00.000E

Aid Type UA

Aid Characteristic

Aid Structure

Aid Remarks Unrecognized Aid

LOCAL NOTICE TO MARINERS

Position Fix Camera



SETTINGS

Edit

To change any settings, you must **enable** edits by tapping the Edit button at the bottom left corner of the Settings page. This prevents accidental changes while reviewing settings on a moving boat.

About AV Assistant

Model - current device and operating system version

Version - current version of AVA

Tap Here for Information - website for AVA information, tapping will take you to the site if you have a connection.

General Information

Display Timeout - this extends your device timeout while the app is running so you do not need to keep waking your device up. 5 minutes is the default, 10 or 15 may be desirable.

Font Size - this can be set between 12 and 32 for your reading convenience. The defaults are 16 (iPhone) and 20 (iPad).

Coordinate System - latitude and longitude can be expressed in decimal (Dec), degrees-minutes-seconds (DMS), or degrees-minutes.tenths of minutes (DM). The default is DMS. All 7054 reports **MUST** use DMS.

Map Style - the map can be shown in the standard roads style, as a marine chart, or as a satellite view (may reduce app responsiveness). The default is Chart when CGForm is set to ANSC-7054B.

Include Map Screenshot in Report - if this is on, a screenshot of the map is captured when you start a report. There is a delay (approx. 2 seconds) before the report appears. Wait for it.

Screenshot Scale - this factor controls the amount of zoom for the screenshot - typically .002 to .02, the default is .004.

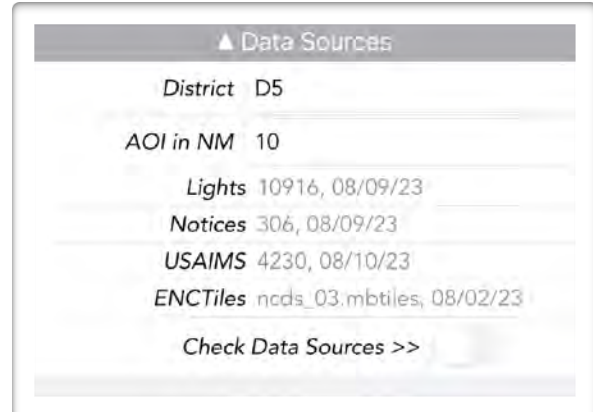
Chart Reference

ENC Chart No - the ENC chart number for your area.

Your FSO-NS should have this information, if used.

Data Sources

District - your operational district, which mirrors the Coast Guard districts. Acceptable values are D1, D5, D7, D8, D8WR, D9, D11, D13, D14, D17.



AOI in NM - this specifies your Area of Interest in nautical miles. The recommended default is 10 nm or less. The AOI moves with you as you travel so it is almost never necessary to extend it. Memory use goes up significantly as it is increased. Maximum is 50 nm. AVA may reduce this automatically if the phone OS issues a memory warning.

Lights, Notices, USAIMS - shows the number of lights and the date of each file. AVA will request a new download whenever these files change. Cancel the download if you are on the water since your connection may be slow or dropped. A new download may be forced by editing the District (no change is necessary).

ENCTiles - shows the ENC regional tile name and date. AVA will request a new download when this changes. Cancel the download if you are on the water since your connection may be slow or dropped. A new download may be forced by editing the District (no change is necessary).

Check Data Sources >> - this is a special "spring-loaded" switch. Turning this on causes AVA to check for new data sources and download any changes. AVA turns this off when complete.

When new data becomes available, you will get a message in the status bar that new data sources are available. Use Check Data Sources to check for new data. Alternatively, changing your district, or even just editing the field without changing it, will force a reload of all data sources.

A good practice is to do a check the morning you are going out to check aids as part of your preparation, while you have a good connection. Just go to *Settings*, tap *Check Data Sources*, and return to the map. You will not want to download these if you are on the water - downloads may be slow or intermittent, leaving you with no data at a critical time.

GPS Information

Show Position Fix Circle - this draws a PF circle around your location on the map, but this feature can be turned off if this results in your display “flashing” due to redrawing on older devices.

External GPS - the make and model of your external Bluetooth GPS (leave blank otherwise).

Coast Guard Information

Your FSO-NS should have this information.

OPCON - your Coast Guard operational unit designation, e.g. 07-30309.

CG Unit Critical - critical reports go to this unit.

CG Unit Urgent - urgent reports go to this unit.

CG Unit Routine - routine reports go to this unit. Private ATONs are often routine (email).

CG Form - the form identifier used by AVA to create the correct reports. The default is blank (no entry). This MUST be ‘**ANSC-7054B**’ to enable AUX reporting (case-sensitive).

Max Leaning - the maximum angle of lean from the vertical. This is a local setting (D7 uses 45).

Off-Station Fixed - the distance beyond which a fixed aid is considered Not on Assigned Position. Set at 60 for PATONs per CG-NAV.

Off-Station Floating - - the distance beyond which a floating aid is considered Not on Assigned Position. Set at 120 for PATONs per CG-NAV.

Member Information

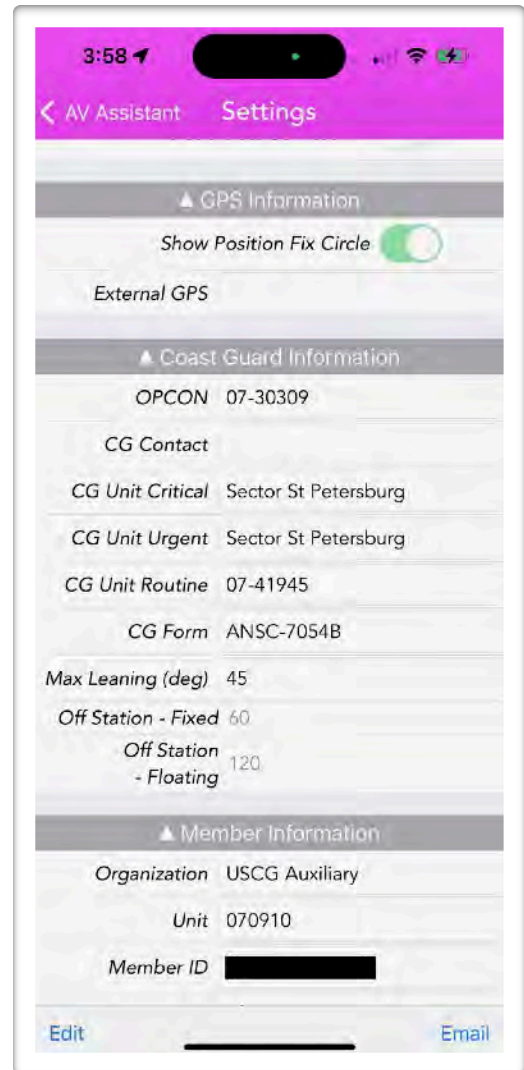
Organization - USCG Auxiliary

Unit - your district, division, and unit number, e.g 070-09-10.

Member ID - your Auxiliary ID number.

Name - your full name.

Email Address - your email address. All emails from the app go to this email. It is highly recommended you send to yourself first, review, then forward to your local NS reporting chain. However, multiple addresses can be used, separating each with a comma.



Phone - your phone number, preferably a cell phone where the USCG can reach you with questions.

AV-PQS Certified - turn this on if you are AV-PQS certified. Default is Off.

Address, City, State, Zip Code - your mailing address, using 2-letter state abbreviations.

User Reports

Show Reported Aids - reported aids are shown as green pins as they are reported (aka breadcrumb trail). This can be switched off as needed. Default is On.



Show Reported Corrections - the corrected positions of reported aids can be shown as green X pins, with green lines back to the reported aids. This can be switched on as needed. Default is Off.



Clear All Reports - button to erase your log of reported aids at any time as needed or convenient. Only available while in **Edit** mode.

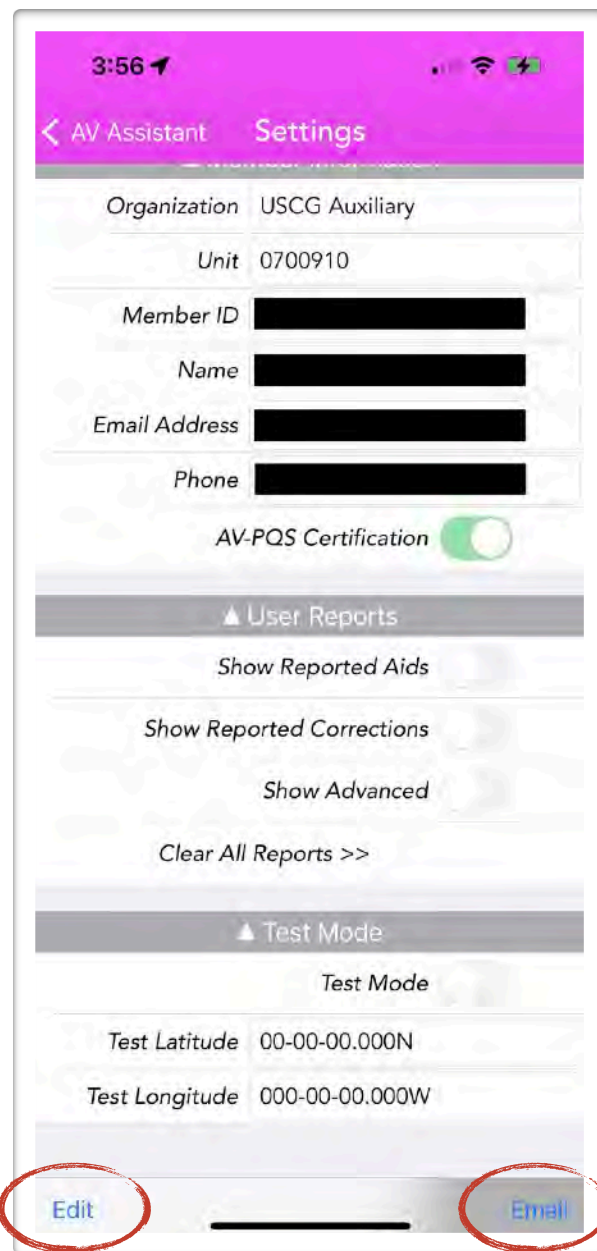
Test Mode

Test Mode - this turns test mode on or off. Default is Off. You can enter a specific location in Test Latitude and Test Longitude in Settings, or just tap and hold on the map to set a new test location, and all the lights will show around that location. This mode is useful for classroom instruction and trip planning. A yellow Test Mode bar will appear on the main page and a Test Mode disclaimer will be added to any emails.

While in Test Mode, your Position Fix will always be at the Test Latitude and Test Longitude. Clear both fields if you want to use your actual position (same behavior as Live Mode).

Test Latitude - the latitude of your test location, manual entry in decimal, DMS, or DM.

Test Longitude - the longitude of your test location, manual entry in decimal, DMS, or DM.



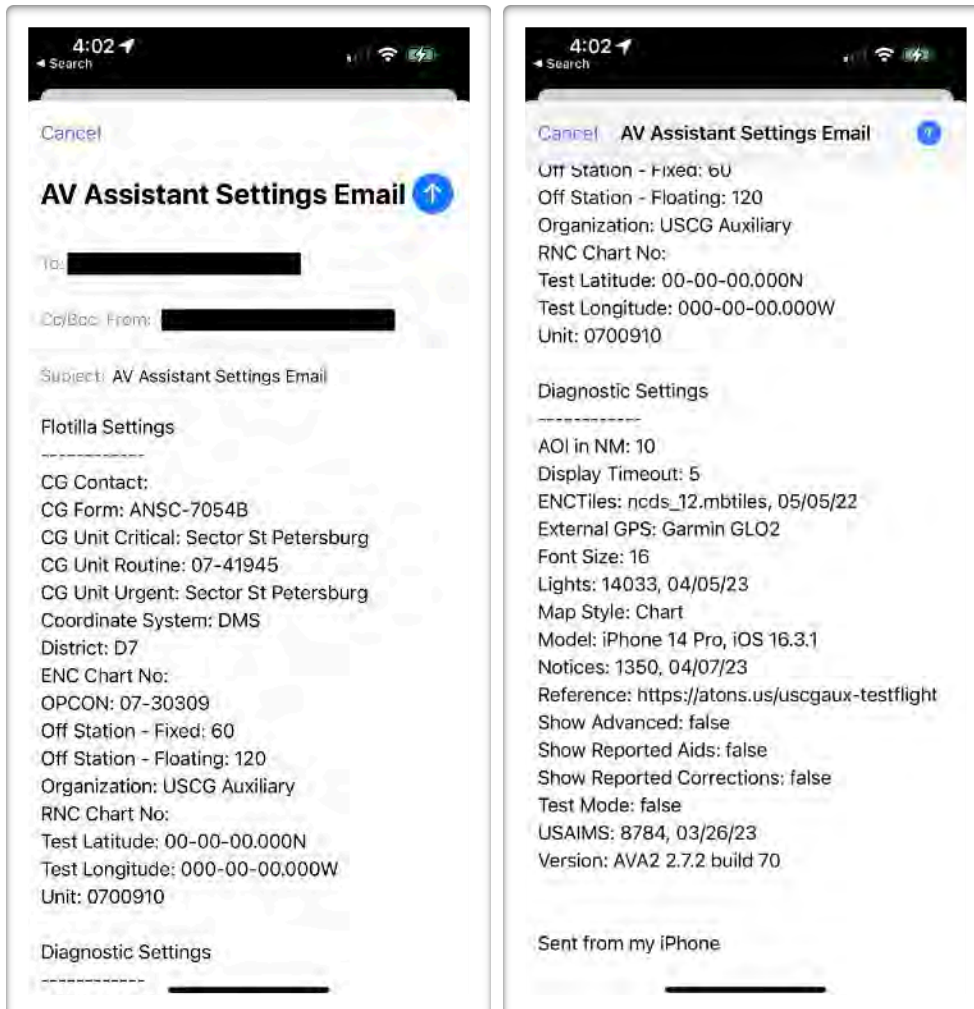
Edit

Settings cannot be changed until **Edit** (bottom left) is tapped. This prevents accidental changes while on a moving boat.

Email

There is an **Email** button at the bottom right of the Settings page. This allows you, as an instructor or FSO-NS, to email your generic settings to your class or flotilla in order to provide the correct settings for everyone to use. The email goes to your email address and, from there, you can edit it to add messages and/or remove any information, and then forward it to the appropriate people.

This can be helpful in getting class members or flotilla NS members on the same page with settings.



QUICK REFERENCE - SCREEN GUIDE

The screenshot shows the AV Assistant app interface. At the top, the time is 2:22. Below the title bar, there is a table of tracking data:

| Latitude | Longitude | Horiz Acc |
|---------------|----------------|-----------|
| 26-33-00.381N | 081-58-24.864W | 20.7 ft |
| Bearing | Distance | LLNR |
| 063T | 3.5 nm | 53155 |

Below the table is a map showing the location of the tracked aid. A callout box provides detailed information for the aid:

- AidUID: 200100061732
- District: 7
- LLNR: 53155
- Name: Cape Coral Rim Channel
- Daybeacon 52
- Class: II
- Type: PA
- SubType: FX
- DescriptionType: DBN
- MarkingSystem: UNKNOWN
- MarkingColor: R
- Latitude: 26-34-36.271N
- Longitude: 081-54-54.315W
- StructureRemark: TR on pile.
- LastInspection: 3/11/19
- NextInspection: 3/11/22

The bottom of the screen features a navigation bar with icons for Light Sets, Search, UA (Unrecognized Aid), and Settings. A 'RE-CENTER' button is also visible on the map.

QUICK REFERENCE - ON THE WATER

Head out to your assigned survey area. Do practice passes along the way, following the one pass method to refresh your technique. If you are in a small boat, you will have more flexibility in maneuvering for observations and photos. Note references to “contact” mean contacting the aid with your GPS, **not your boat**. This is easier with an external GPS on a boat hook or pole.

The One Pass Method

1. Locate the next aid on AVA, and tap on the aid to read the Light List and any LNM information.
2. As you approach the aid, slow to idle speed and observe closely for any discrepancies.
3. If the aid is discrepant and has an LNM that describes the condition correctly, then move on to the next aid, unless you are specifically requested to verify whether the LNM is still in effect.
4. When you are approximately 25-30 feet away, slow the boat to minimum speed (less than 2 kt), and tap on the document icon to the right to start a report. Immediately tap **Camera** in the taskbar and hold the phone to capture both the base of the aid in the water and the top of the aid. The aid should fill most of the page from the waterline to the top. One dayboard should be clearly visible with the number, and the second dayboard should be clearly visible behind or clearly not present.
5. Tap the camera icon to take a photo. If needed, quickly circle or point out any areas of concern or damage with your finger and tap the **green checkmark** to save the photo.
6. By now, you should be almost at the aid. Slow down further or stop to improve the accuracy of the GPS reading, and tap **Position Fix** in the taskbar as close to the aid as is safely possible. Keep in mind that your boat's superstructure, water depth, and any aid protuberances may restrict your approach. If you are able to come to a dead stop and make contact with the aid for 15 seconds, you will produce the highest-quality reports.
7. You may need to take a second photo as you depart the aid to capture additional discrepancy details.
8. Make sure you are past the aid in a safe area, and then review your report. Make sure the Position Fix was successful and that you got at least one photo. Read each line down from the top to make sure all relevant information is captured.
9. Tap **Preview** to generate the 7054. If you have forgotten any critical steps, AVA will remind you. Review and check the photos. Radio or telephone the information in if deemed necessary.
10. Tap **Email** to generate the email. **Send** it. Tap **Ok** to dismiss the confirmation.
11. Return to step 1.

With some practice, you should be able to do a verification in 1-2 minutes, and a discrepancy in 3-5 minutes.