

Quick Start Guide

Models AAT30 & AAT15



Sunsight RF Panel Antenna Alignment System

Issue 7

June 2019

www.sunsight.com

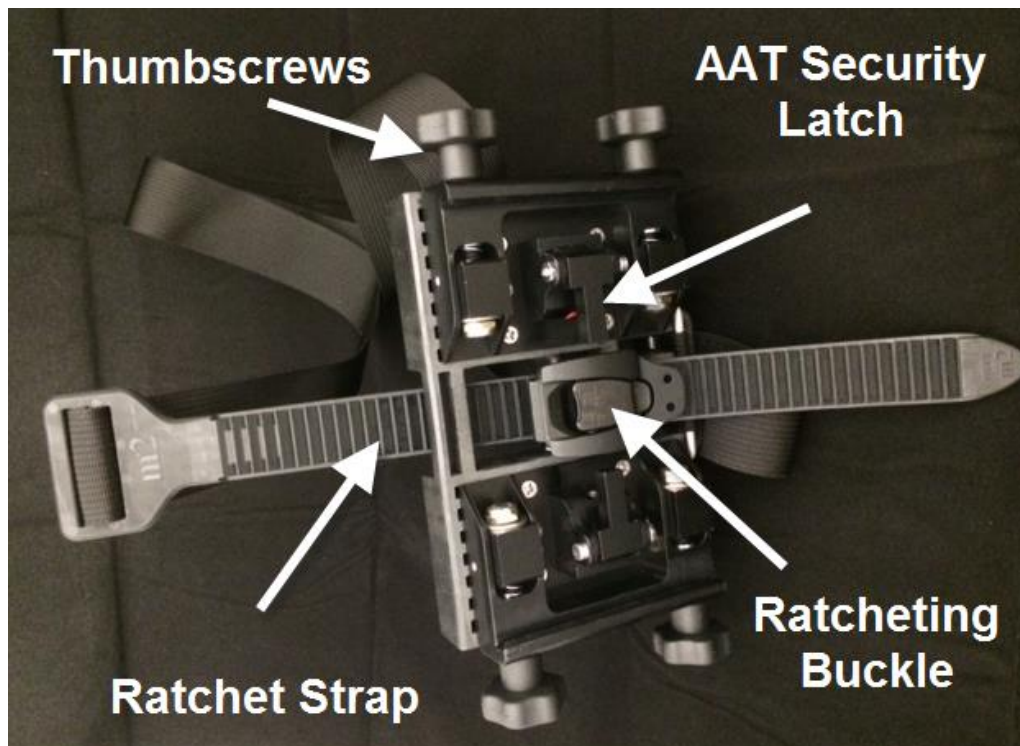
support@sunsight.com

+1-321-244-9443 x2

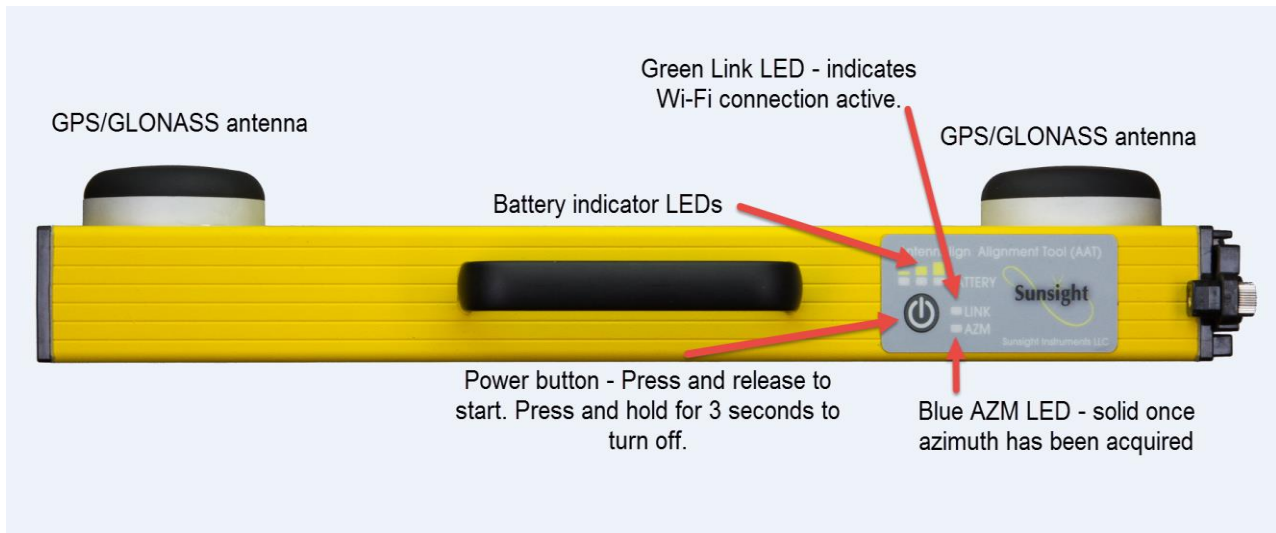
***The AATxx RF Panel Alignment System Components
(Optional Accessories Not Shown)***



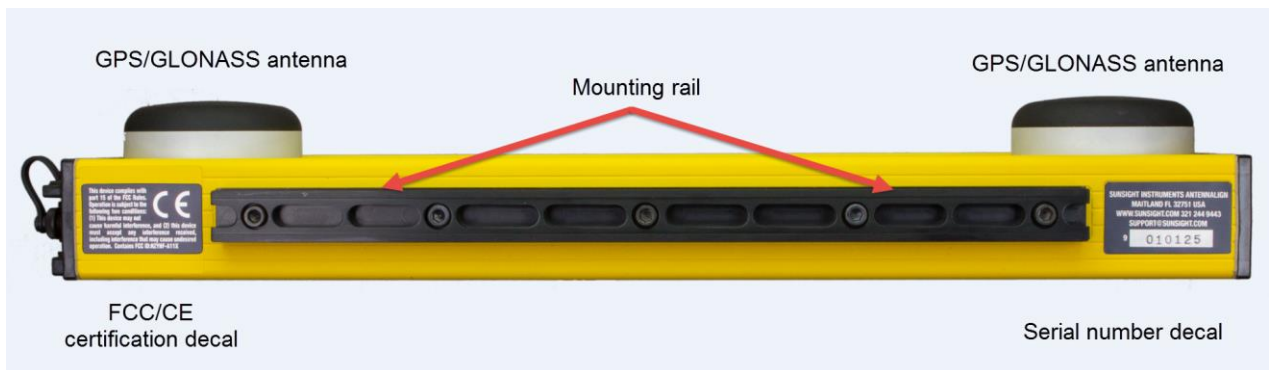
The AATxx RF Panel Antenna Side Mount



AAT Front

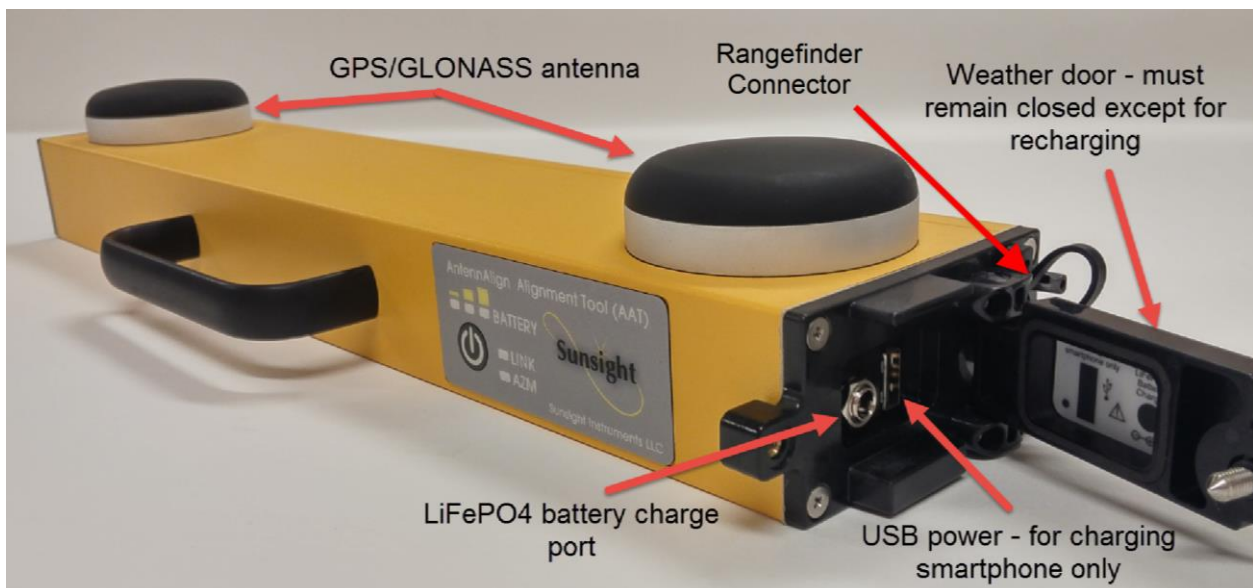


AAT Back



AAT Connectors

Important— use only SunSight supplied charger. Other chargers will not charge the battery fully



Attention New Users!!

The AAT contains many additional features and functions not addressed in this document. Refer to the *AAT RF Panel Antenna Alignment System* operator's manual for details. Read and understand all safety precautions as outlined in the manual.

Operator's manual is available for download:

<https://www.sunsight.com/support/aat-xx-support/>

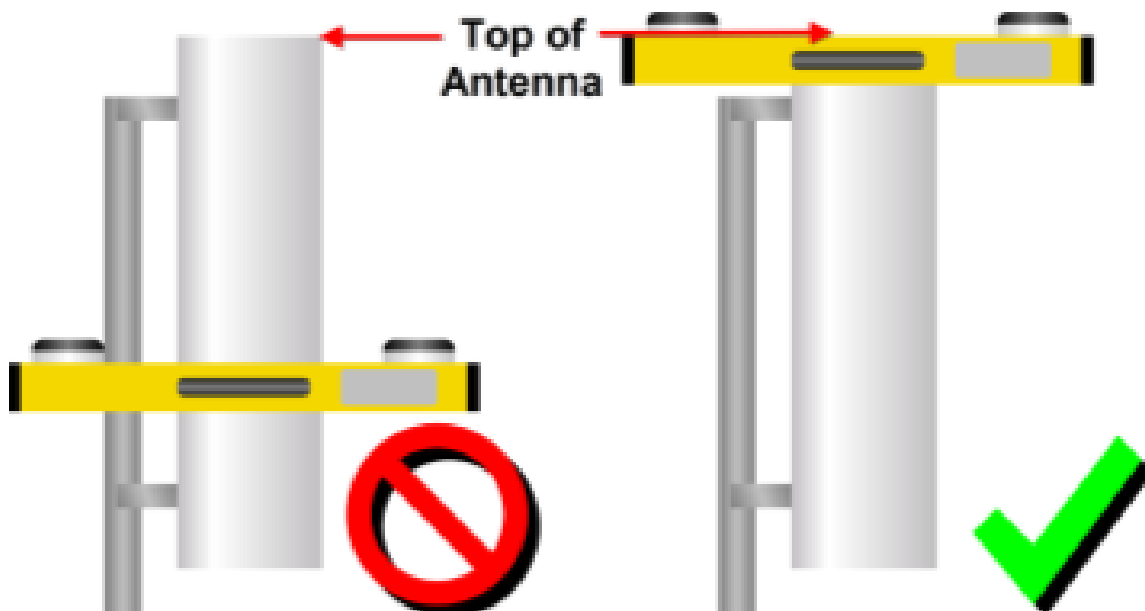
REVIEW THE FREE TRAINING VIDEOS:

<https://www.sunsight.com/index.php/training>

Important: Mount the AAT properly

Mount the AAT as high as possible to allow the GPS antennas on top of the AAT to have an unrestricted view of the sky.

Remember that user's hands, head, body, etc. can block GPS signals, as will most other physical obstructions.



If necessary, refer to the Diagnostic webpage provided by the AAT's onboard website for details concerning azimuth/GPS conditions. This webpage will guide the user to quick and successful resolution of most GPS signal issues.

Under normal conditions azimuth acquisition should take less than 5 minutes. To learn tips and tricks for obtaining GPS - based azimuth refer to the general training video: <https://www.youtube.com/watch?v=WN-vKiaeR7I&list=PLHOFxsezxEnSFE2V-im-Go-T02PBF9AYW&index=36&t=0s>

Getting Started

The AAT is a battery operated tool that measures azimuth, tilt, roll and height. Typical use of the AAT is for aligning RF cellular panel antennas. The AAT kit comes with all the basic items needed to perform most antenna alignment tasks.

To begin using the AAT, it is helpful to understand how the AAT functions.

The AAT is operated by accessing the unit using WiFi. The AAT acts as its own WiFi hotspot.

The AAT can be operated by most any smartphone, tablet or laptop supporting standard Wi-Fi (802.11b/g/n). **See Section 3. for more details.**

The AAT can measure and record results in two ways:

- 1) Quick Capture mode**
- OR**
- 2) Profile mode**

Quick Capture mode allows the user to mount the AAT and capture the actual measurements with no need for alignment targets. Quick capture reports do not include the target data that would be in the Profile mode reports.

Profile mode allows the user to preprogram the AAT with target data that is compared to actual measurements in the field. Resulting reports show both target and measured data. There are numerous optional data fields available when using the Profile mode.

Reports can be generated for a single alignment record (i.e. a single antenna) or site record (i.e. where several alignment records create one report). The AAT can create PDF, CSV and Google Earth files. Reports are downloaded to your handheld device or laptop by the AAT, from there they can be emailed or printed.

Using the AAT in Profile or Quick Capture Mode to Capture and Report Alignment Work

Profile Capture

Program alignment targets ahead of time

Create Profile(s) for each antenna for upcoming jobs ahead of time using RFDS or other site data information. Add up to 256 Profiles.

At the jobsite, mount AAT, then turn on and connect to AAT using hand controller via Wi-Fi. Select correct Profile by site/sector/antenna. Target data is displayed.

Adjust antenna to match targets within customer's specification and secure antenna in position.

Capture antenna alignment measurements to finalize report. Add pictures at this time if desired (requires Android app).

Email, copy or print site or individual antenna reports. (PDF, CSV or Google Earth formats)

OR

Quick Capture

No alignment targets programmed ahead of time

At the jobsite, mount AAT, then turn on and connect to AAT using hand controller via Wi-Fi. Measure Only page will be displayed showing real-time alignment measurements.

Adjust antenna alignment within customer specifications and secure antenna in position.

Capture antenna alignment measurements to finalize report. Add pictures at this time if optional picture feature is available.

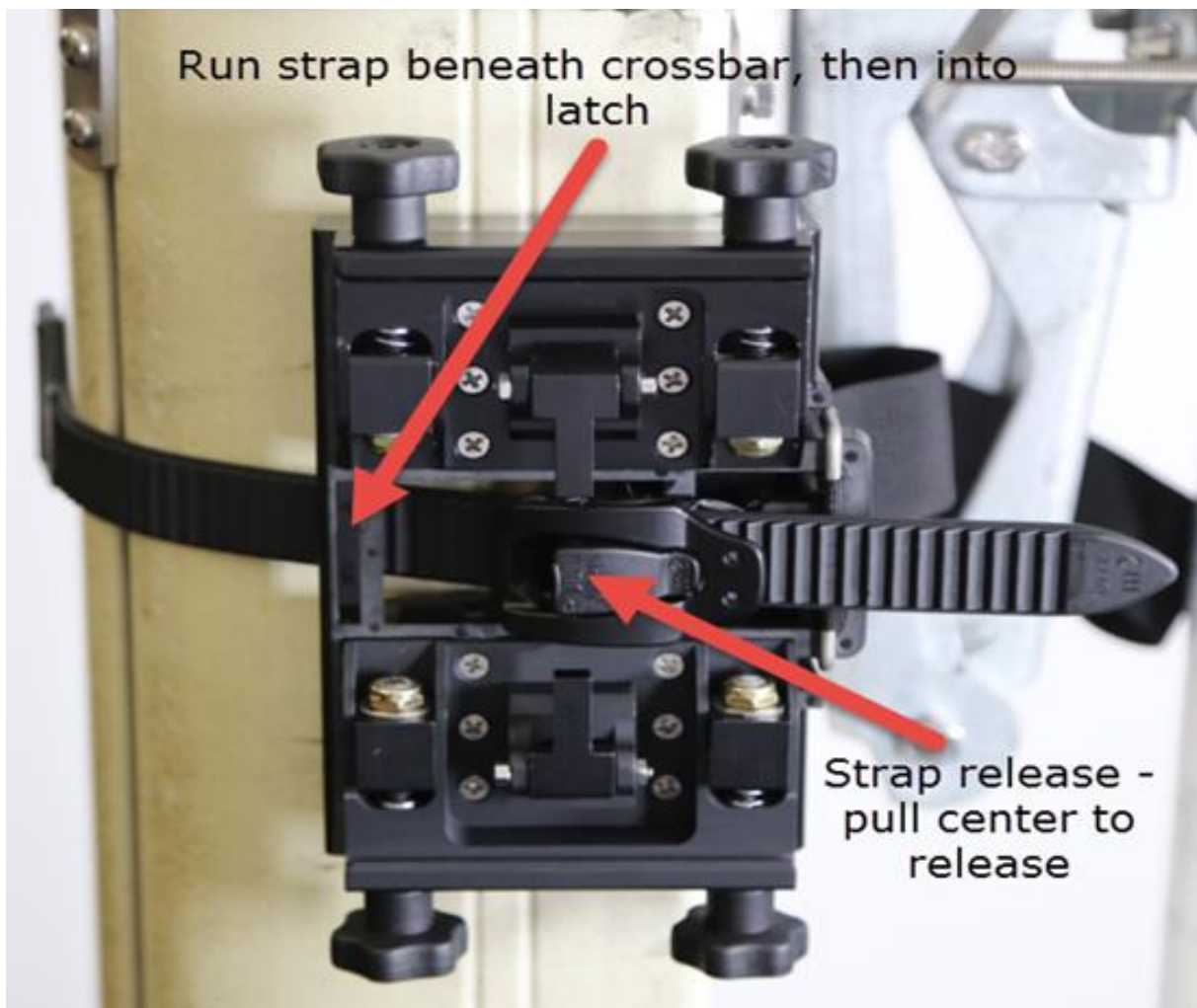
Add optional fields to capture record if desired. Target data cannot be added in Quick Capture mode.

Email, copy or print site or individual antenna reports. (PDF, CSV or Google Earth formats)

Using the AAT

1) Secure the RF panel side mount

- Position RF panel side mount as **high as possible** on the antenna to be measured.
- Loop mount strap around antenna, then **UNDER mount crossbar**.
- Feed strap end into ratchet buckle, and pull slack from strap.
- Use the ratchet buckle to tighten strap. 2 – 3 clicks is usually sufficient to secure mount. **DO NOT OVERTIGHTEN!**
- Ensure mount sits square on back/side of antenna. Adjust position as necessary.



2. Secure the AAT to mount

Secure AAT to mount by positioning upper lip of mounting rail on back of AAT into mount grip, then rotate AAT into the security latch. User should feel AAT “click” into position. Tighten both mount thumbscrews.

Secure AAT and mount to structure with the included safety lanyard. Attach lanyard to AAT handle and through loop in mount strap.

3. Power on and connect to the AAT

The AAT can be accessed in two ways, 1) using the Sunsight Android app on a handheld device (smartphone) or 2) directly in a web browser. The Android app includes more AAT features (including the ability to capture photos to include in alignment reports). Web browser access provides a basic method to operate the AAT when using non-Android devices (iOS/Apple devices, Windows, or Linux).

Access Method 1. Connecting using the Sunsight Android app (preferred)

Download and install the Sunsight Android app from the support page at: <https://www.sunsight.com/support/AAT-xx-support/>. Your Android device must be running Android version 6.0 or higher and the AAT must have a firmware load of r005v45 or higher.

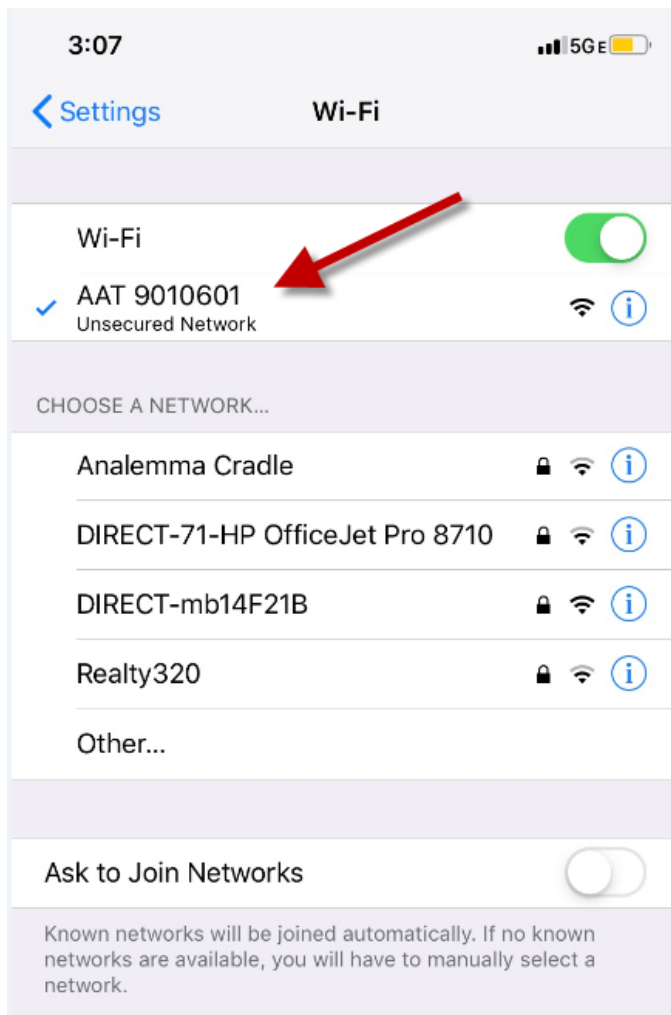
- Power on the AAT.
- Power on and enable Wi-Fi on the handheld Android device.
- Launch the “Sunsight AAT” app.
- Tap “Scan for AATs”
- Highlight the appropriate AAT serial number from the dropdown list and click or tap “Connect to AAT”.
- Once connected, the green Link LED on the AAT keypad will illuminate and the Measure Only page will appear on the handheld device.

Access Method 2. Connecting using basic web browser access (no app) - Applies to non-Android devices (iOS/Apple, Windows, or Linux).

- Power on the AAT.
- Power on the device to be used with the AAT.
- Enable WiFi if not already enabled.
- Choose WiFi network AAT 901xxxx where the x’s represent the serial number of the AAT.
- Access the AAT by opening a web browser and navigating to:
192.168.0.50
- Once connected, the green Link LED on the AAT keypad will illuminate and the Measure Only page will appear on the handheld device.

***NOTE: If the Wi-Fi device is taken out of range of the AAT Wi-Fi broadcast, the device may automatically attempt to connect to another Wi-Fi network or the cell network. This feature may be disabled by the user, if desired. See device owner's manual for more information.**

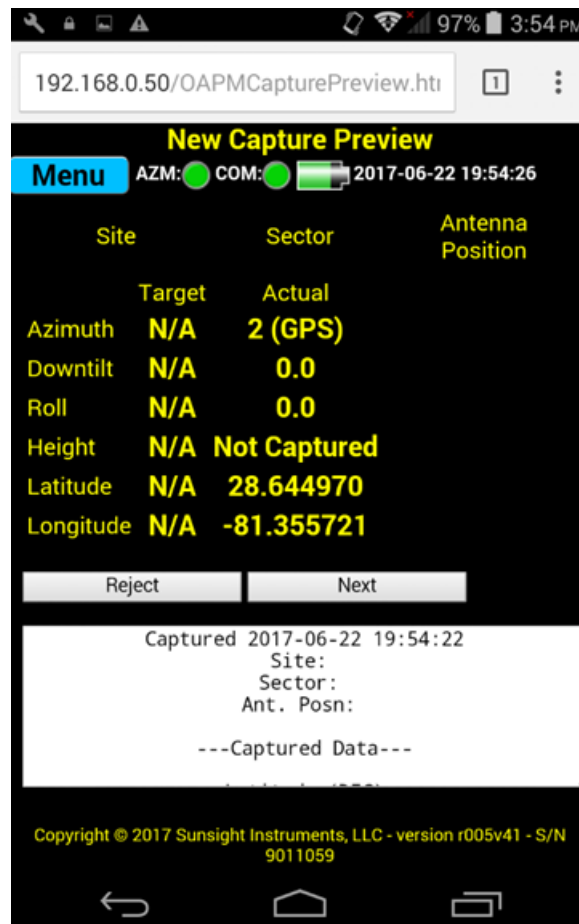
Wi-Fi Hotspot Example



4. Using "Quick Capture" mode

- Click or tap **Menu**, then select **Measure Only**.
- Verify the Orientation is correct. Click or tap the Apply button to save any change to Orientation. Orientation is referenced from behind the antenna. The AAT carrying handle represents the front of the AAT.
- On the live measurements page click or tap the **Quick Capture** button.
- After the timer countdown, captured information will be displayed.
- Click or tap the **Next** button to input site information and store to AAT or Select Reject to return to the live measurements page to begin again.
- Input Site, Sector and Antenna Position and save results.

Capturing alignment data using Quick Capture



5. Using “Profile” mode

- Click or tap the **Menu** button, then select **Profiles/Capture/Report**
- Click or tap the **New Profile** button. Input **Site, Sector** and **Antenna Position**.
- Input target data provided in the RFDS for the job site.
- Input any desired optional information (antenna S/N, notes, etc.)

*Optional fields may be modified or added after capture.

*** Required fields and target values may not be modified once a profile has been created

- Click or tap either **Submit** button available at the top and bottom of page to save the data.

The AAT will validate and store the information input by the user, then site information will be displayed on-screen.

To add additional antennas to a jobsite, click or tap the **Clone** button, changing Sector, Antenna Position and Target data as necessary. In this way, the user can complete all data input for an entire site before climbing.

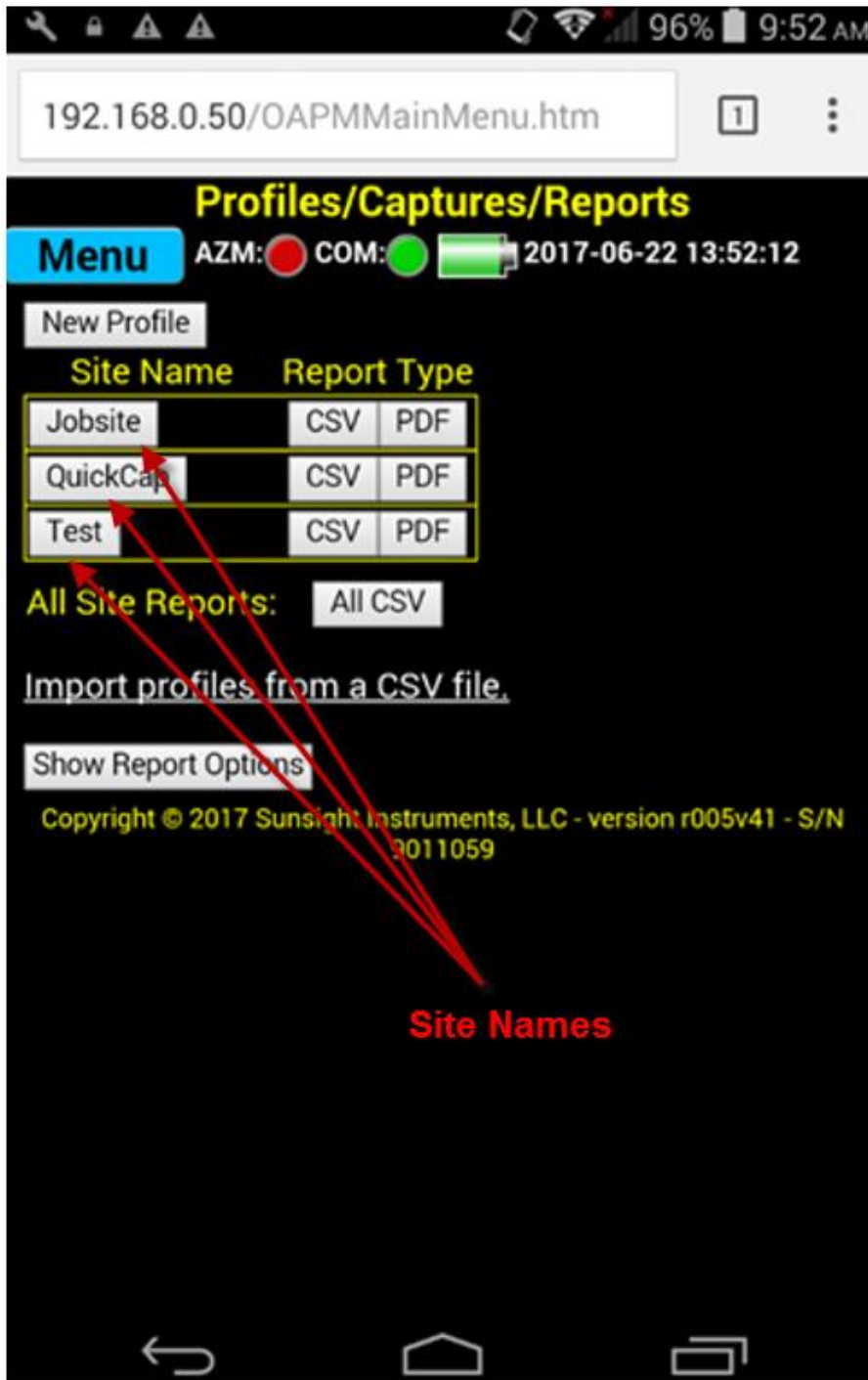
Always click the Submit button to save information to the AAT!

6. Capture alignment data

To capture data to a previously created profile: Click or tap the Menu button, then select Profiles/Capture/Report.

- Choose the appropriate **Site Name**.
- Use the **Prev Profile** and **Next Profile** buttons to scroll through available antenna positions stored under the Site.
- Verify the **Orientation** is correct. Click or tap the **Apply** button to save any change to Orientation. Orientation is referenced from behind the antenna. The AAT carrying handle represents the front of the AAT.
- Click or tap the **Full Capture** button to capture all alignment data.
- After the timer countdown, captured information will be displayed.
- Click or tap either **Submit** button available at the top and bottom of page to save the data
- The user may create several captures for a specific profile (antenna).
- Power down AAT prior to descent.

Choosing your site



Aligning to Target Data

New Capture - Live Measurement

Menu AZM: ● COM: ● 2017-06-22 19:53:23

AAT Orientation: AAT Faces Back ▾ Apply

| Site | Sector | Antenna Position |
|-----------------|-----------|------------------|
| Sunsight | Alpha (1) | A1 |
| | Target | Actual |
| Azimuth | 0 | 358 |
| Downtilt | 0.0 | 0.0 |
| Roll | 0.0 | 0.0 |
| Height (ft) | 0.0 | ---.- |
| Latitude | 0.000000 | 28.644969 |
| Longitude | 0.000000 | -81.355721 |
| MSL Height (ft) | | 108 ft |
| Lat/Long Acc | | 1.02 ft |
| Pos. Correction | | Yes |

Capture 5sec/5sec Capture 15sec/15sec

Capture 30sec/30sec

7. Generate reports

Note: Reports may be generated and emailed directly from the field prior to departure from the jobsite

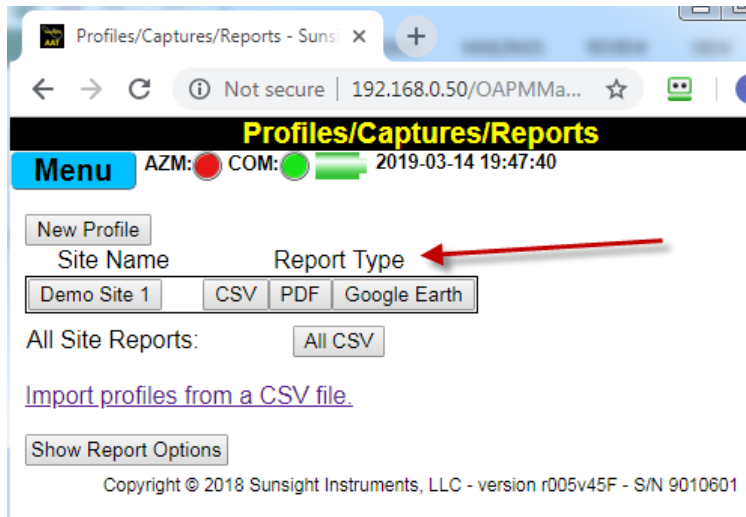
Power on and connect to the AAT (see Section 3. for details)

Click or tap Menu, then select Profiles/Capture/Report.

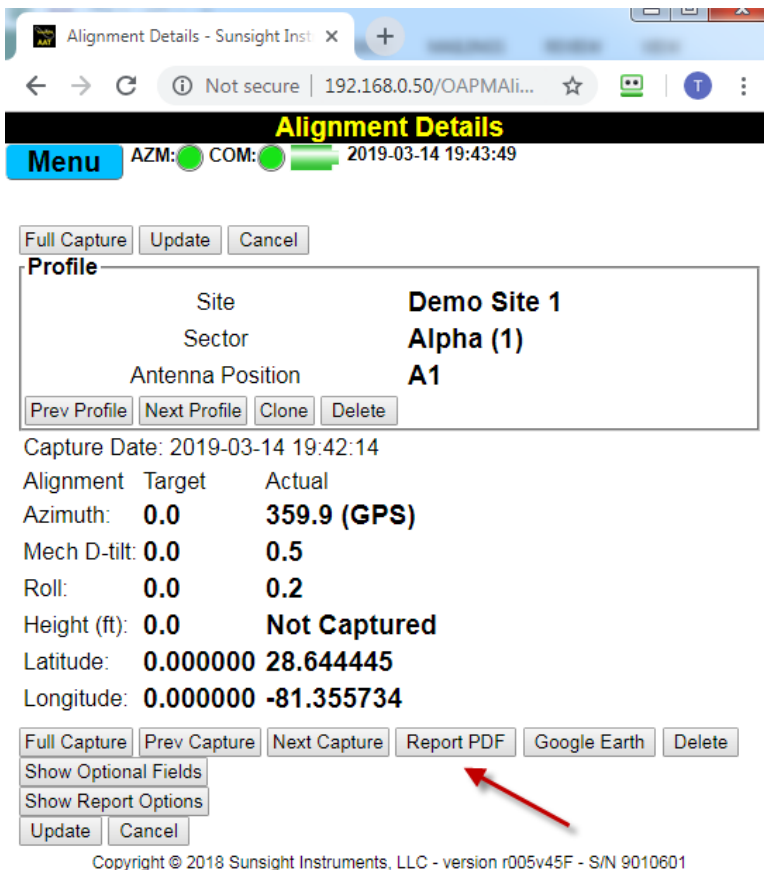
Locate the site name for the report to be generated.

Click the desired report type (PDF, CSV, Google Earth, etc) next to the site name to create a full site report.

Reports/data will be downloaded onto the wireless device.



- Individual antenna reports can be accessed by clicking the **Site Name**, scrolling to the correct antenna profile and then selecting the desired report option.



Definitions

AAT – The SunSight Instruments AntennAlign Alignment Tool is a self-contained measuring device that can be used to measure azimuth, tilt, roll, latitude, longitude, and height of the device it is attached to. The primary use of the AAT is to provide and record the necessary measurements to allow a user to align cellular panel antennas.

Capture - A capture is the action of recording measurements to the AAT. Typically, the tower technician will adjust the antenna to the required alignment values and capture (record) the results. The captured data is then used to generate reports.

Downtilt – See “Tilt”

Embedded Website - The AAT is accessed through its embedded (built-in) Website. Connect your Wi-Fi device to the AAT’s access point, or “hot spot” to access the AAT’s website. All input and output to and from the AAT is accessed in this way.

GPS and GLONASS - GPS and GLONASS, also referred to as GNSS, are both satellite-based positioning systems that are used by the AAT to determine exact latitude and longitude of the AAT. Also, and most importantly, the satellites are used to determine the azimuth for the AAT.

Handheld Device – The AAT can be operated by most any smartphone, tablet or laptop supporting standard Wi-Fi (802.11b/g/n). See Section 3. for more details.

Plumb – See “Roll”

Profile - A Profile is a set of target alignment data including the site name, sector, and antenna position. Profiles can be entered in advance of work to minimize data entry and time on the tower.

Report - Reports are formatted alignment results that can be created in PDF or CSV formats. Reports can be created for one individual set of measurements (ex. one antenna) or can be created for an entire site’s worth of data (several antennas on one report). Google Earth files are also available showing the alignment data directly in Google Earth.

RF Panel Antenna - An RF panel antenna is an antenna used for broadcasting cellular signals to handsets. They are typically mounted on towers or rooftops in a tri-sector configuration.

Roll – Sometimes referred to as “plumb” and measured in degrees. Refers to antenna alignment in the horizontal plane. A positive or negative roll value indicates the top of the antenna is not level.

Tilt – Measured in degrees and refers to antenna alignment in the vertical plane. A positive tilt value indicates the face of the antenna is pointed toward the ground.

Wi-Fi Enabled Device – See “Handheld Device”

Questions? We have answers!

Live technical support is available Monday—Friday 9:00 AM to 6:00 PM Eastern Time.

After-hours calls and emails will receive a response as quickly as possible, often the same day, but no later than the following business day.

Sunsight Technical Support

www.sunsight.com

support@sunsight.com

+1-321-244-9443 x2