Stonex 'Cube A' S850A GNSS - Quick guide

Getting started:

Turn on the S850A receiver be holding down the On/Off button for 1 second. Put the unit on the survey pole. Turning on the tablet and slide up with finger to show the main screen. There is no password.

Tap on the '**Cube A**' App in the middle of the screen and **then let it go through its intialisation process**.

If outside in view of satellites it will show how many satellites it is receiving.

It will display **DGNSS, Float** or **Fixed** when it is receiving the Atlas L-Band or RTK signal.

H:0.020 means the expected horizontal accuracy is 20mm and V: 0.026 is 26mm accuracy in example below.

The RTK Icon gives the amount of time from receiving the RTK / DGPS correction signal.

Using the mobile phone internet is will show between 1 and 5 secs. L-Band should be between 10 and 30 seconds. The **battery level** of the receiver is to the right of the RTK status.

On the main front page at the bottom of the screen are the 6 menu tabs. **Project**, **Device** and **Survey** etc.

A **Project** name will have been created or it can be done in the Project menu in **Project Manager**.

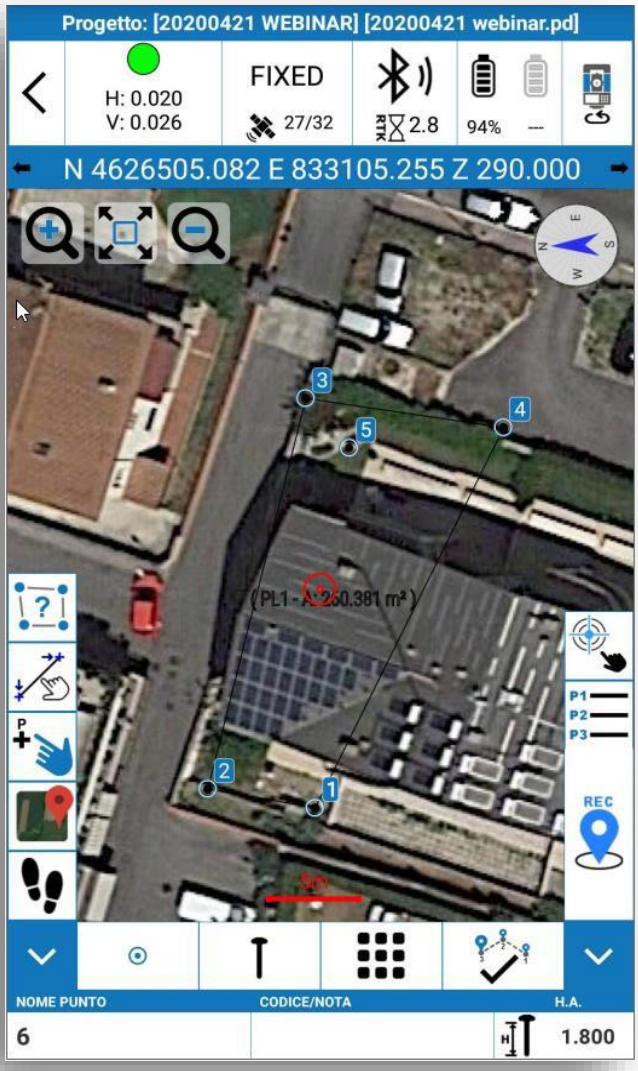
The **Device** menu is where communication link is created. It should already be configured for the S850A.

Surveying:

On the bottom of the screen you will see **Survey**.

In this menu use **Point Survey** to record a point.

Tap on the bottom right **REC** teardrop Icon to record a point at your location. The point is where ever the GPS antenna is located.



Above the REC icon there is P1, P2, P3 list. This is where you can view and edit points.

The down arrow below the REC icon is where you can set the antenna height to the ground. If it is on a pole it will be 2m or with the quick release it is 2.1m.

Setting out a point is done in the Survey menu by selecting the **Point Stakeout** menu. This will allow you to navigate to a selected point. The point is selected from a list or from the map.

The google image on the left side of the screen will Bring up a google map of the area. Don't use this function if you are low on battery life.

Always remember to keep an eye on H: & V: at top of screen to make sure you know the estimated accuracy.

To export your recorded points go to the **Projects** menu In the main screen. Then open Export Data.

Select Point Id, East, North, Height and Code in the list.

Also **tick the box to share** when you export. This will let You email the data to your personal email. The other way to export data is by the USB C cable connected to a PC. Swipe down with your finger from the top of the UT10 tablet screen and you will see Android System – Charging this device via USB. Tap on this message to bring up other options. Now select **File Transfer**.

On your computer open the **Internal shared storage**, then open **StonexCube**, then open the **Export** folder. Your exported CSV will be in this folder.

The Cube A software is exited by pressing the return button near the On/Off button twice. The S850A receiver can be turned off by checking the box and turning off at the same time. To turn off manually press the On/Off button for 2 second; you will hear a voice saying turn Off. Then press a second time to turn Off.

Other useful information when using the CubeA main menus is as follows.
In the **Configure** menu at bottom of screen you will see the following menu tabs
Coordinate System is where **Ellipsoid** is set to **GRS80** when working in Australia
Projection is set to UTM and it is here that you select a different UTM zone. The Central Meridian for Zone 50 is 117 degrees and for zone 51 it is 123 degrees. This can be auto selected by tapping the icon to the right.
Geoid is where a model of mean sea level is selected to change heights from Ellipsoid to AHD. Import the file for your project area.
Local Offsets is sometimes enabled to change coordinates from GDA2020 to GDA94. In zone 50 of WA to go from GDA2020 to GDA94 you subtract 1.5m from North and subract 1m from East of the coordinates.

Display Settings – **Display point Name** should be selected to show your points on the map screen.
Record Settings is where you can set the acceptable tolorence for the survey points that you collect. The points you collect will be called **Topo points**.
When you are using L-Band DGPS solution The best settings would be as follows
Solution Limit **Float**
HMRS 0.20 which is 20cm - this is just so you don't get the warning message pop up. Always look at
VRMS 0.30 which is 30cm the estimated accuracy at the top of screen before recording a point.
Auto Point in the Record Settings menu allows you to create a track log of points using a time interval or a distance interval (labelled Record according to Step).

The **Device** menu at bottom of screen
Working Mode is where you can check the S850A receivers settings.
Select **Rover** Double check that in the Communication Mode box that **Atlas L-Band** is selected.
Double check that your antenna height is set correctly.
Double check that all the Satellite Systems have been enabled.
Then press Apply to ensure that any changes have been implemented.

The **Project** menu at bottom of Screen
As well as Exporting data the **Import Data** menu allows you to load in your own CSV files. You just need to match the header data for the columns.
Feature Codes allow you to create your own list of codes. Simply create New or Edit an existing code list and give it a name. Enter in common features such as drill hole collars or plant species etc.
In this menu, previous jobs can be activated and new projects created.

Charging the the S850A – Do this at the end of the day using the larger charger and the cable with 2 x USB C connectors. Charge the 6" tablet via the smaller USB charger. Cigarette USB adapter included.

Using the Web UI and configuring the receiver

Firstly connect to the S850A via WiFi on your computer. It will not connect to the internet.
Then open a Web browser like Internet Explorer and Type **192.168.10.1** in the browser window.
It will ask for username and password which is **admin** and **password** respectively.
You can now access the receivers information and make changes to the settings.
Working Mode is where you can make it either a **Rover** or a **Base** and change settings.
Download Raw Data is where Raw GNSS data that has been recorded is stored. This can be used for Post Processing and to send off to get an **Auspos report**. Around 3 hours or more data is need for a good report.
Static Survey is where it is set to record raw data for a Static Session.
Management is where New Firmware is installed and Atlas L-Band subscriptions activated.