LandStar8 FAQ Series

DESCRIPTION

Common LandStar8 Questions, with answers

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More FAQ's like this one are available here: [LandStar8_FAQ]

How to read this document

This document is updated nearly every week. New questions are added to the end.

If this is your first read through, start here at the beginning.
If you have read this before, go to the end and read from the end back towards the beginning. Stop when you get to something that is familiar.

Where are all the FAQ's stored?

https://igage.com/out/CHC/LandStar8/faq/index.htm

I can't get back from a menu or I can't collapse the keyboard to see behind it.

Enabling soft buttons on the bottom of the screen will help navigation through large entry forms as there will be a **dedicated back button** and a key to collapse the keyboard while in the Survey modes.

Enabling 3-button navigation depends on the brand of tablet:

Google Pixel Devices	Samsung Devices	Tripltek 9 Pro
		
Settings > **Display** > **Navigation Mode**	**Settings** > **Display Navigation type**	**Settings > System > Gestures > System navigation**

Select **3-button navigation**	Select **Buttons and swipe gestures** Enable **Gesture hints** Enable **Show button to hide keyboard** > **More Options** > **Swipe from bottom**	Select -**3-button navigation**

Is there a curve calculator?
How do I enter a Horizontal curve?

The 'Plot Deed' function allows plotting metes and bounds deed descriptions with line and arc (curve) calls. There is a curve calculator that allows for the entry of right/left curves by radius, curve length, cord length, angle and cord bearing. You can start this function from the Tools menu, or from CAD view Draw > Layout.

See this video with example file or the User Manual:

23 Plotting metes and bounds deed descriptions.

[The example file]

3:43

If you are looking for an angle calculator to project a point from a station, forward from a backsight see the next question.

Is there a triangle calculator?

Is there a way to project a new point from an existing point using angle right or left at a distance?

Yes, the **Tools** > **Rotation** COGO function does exactly this. However, you need to have the azimuth entry setup correctly. See this FAQ for details:

https://igage.com/out/CHC/LandStar8/faq/LS8_FAQ_AngleRightProjection_001.pdf

Angle left: just enter a '-' (minus sign) before the **Rotation angle**.

Is there a Total Station and Robotics module?

Yes, there is a total station with/without robotics module. It is a reasonable cost and supports many, but not all devices. Support for Nikon, Geomax Zoom 95, Topcon, Sokkia and Leica exists. However, some brands require codes to enable or have recent firmware updates which restrict LandStar8 from working.

Call us and we can send you a QRCode that will enable TS and RTS operation in LS8 and you can check compatibility with your current equipment.

Base Positions stored in jobs

Every GNSS point stored will generate a Base position. If they don't show up in the point list, click the **3-dot** button and then **Show GNSS Base**.

If you follow the instructions in this [Setup Base Position] FAQ,

a base point will always be added to the point list at the Ground Mark. If you don't set up the base that is in use with LandStar8 (perhaps it is a community base that you can't control), then the stored base point will reflect the L1 Phase Center (PC) or the Antena Reference Position (ARP) of the base's antenna which is broadcast in the correction message.

Even if you get the PC or ARP location, it is still possible to do Base shifts and Shift GNSS base.

Shifting autonomous base positions to match an OPUS report

Checkout the [OPUS Solution Adjustment] FAQ for step by step instructions. There is a built-in base shift adjustment routine accessible from the 3-dot button of the point list.

Reversing the order of points in the point list?

Click the **3-dot** button at the top right of the point list, then click on **Sort first/last to top**.

How do I move a project to another data collector?

The easiest way is: from the main menu Project (tab), click on Projects (button), then drag the project you want to share/move to the right. Click on the orange share button, then choose a share method. Email is easiest for jobs without Visual Survey pictures.

On the receiving data collector, download the emailed project file into the Download folder. Then in LandStar click on the 3-dot button in the Projects menu, browse to the file and open it.

The transferred job will be in the available project list, you can drag it to the right to open it.

LandStar now defaults to Gmail every time I share, how do I get the menu back that allows me to select a method (Gmail, Drive, Skype, WhatsApp, Quick Share…)

The required setting is actually under Gmail, not LandStar8. Go to the device settings:

Apps >
find Gmail (may be under 'all Apps') >
Open by default >
click on **Clear default preferences** (gray button at the bottom)

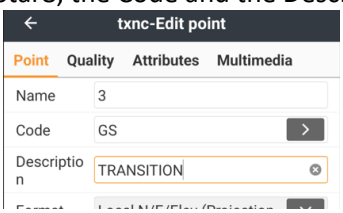
Codes & Descriptions, why not just codes?

Some other tools place the Code as the first word of the Description, except sometimes there will be a Code modifier (like PC) as the second word of the description, unless the modifier is special and then the Code may occupy 4 or more words. For example:

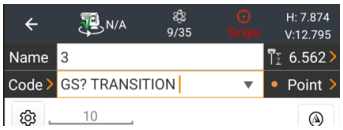
RT PC LTF LTWOH.5 OV-1.5

Is a valid Code. This gets even more confusing with non-English languages.

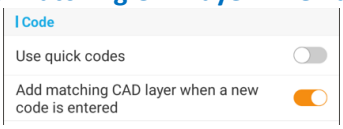
In LandStar8, the Code and the Description are separate fields:



You can enter both a Code and a Description in the Code box by inserting a question mark '?' between the Code and Description. Everything before the ? is treated as Code and everything after the question mark is treated as a description:



In addition to performing field to finish entry, codes can trigger the Layer that features are stored to. The **Add matching CAD layer when a new code is entered** option:

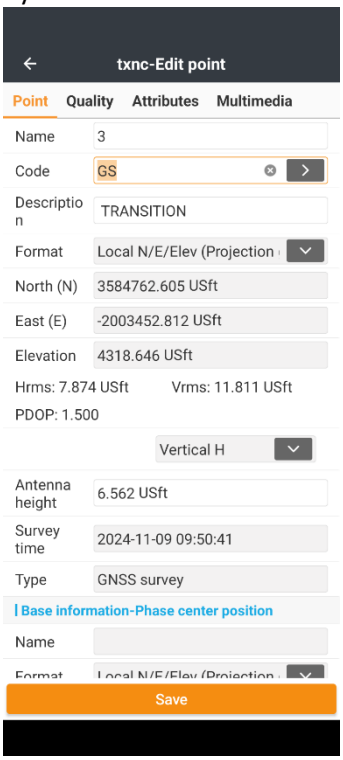


will automatically add new Codes as they are defined.

If you don't use Codes, then you can just treat the Code as the Description. Turn off the Add matching CAD layer… option. You will need to import Descriptions into the Code field and export Codes into the Description field when exchanging text files.

Or, if you just don't like the question mark delimiter, click the **Settings** gear, then on the **Survey** tab set **Confirm before saving** option to enabled. A detailed code, description, invert, point details screen will be shown after every point is stored and you can enter the Code and Description

separately:



Alternatively, you might put the **Edit last point** button (circle with 3 dots) on the tool tray, then you can click on the button when you want to enter a description:

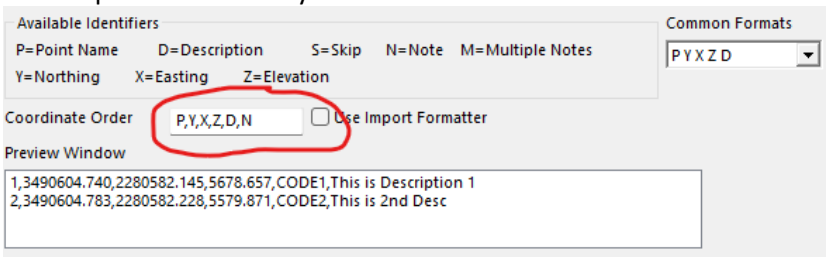
When importing a text file with both Code and Description into CAD tools you can let the desktop tool know how to interpret the fields. For example, if we use the export format:

Name, Northing, Easting, Elevation, Code, Description

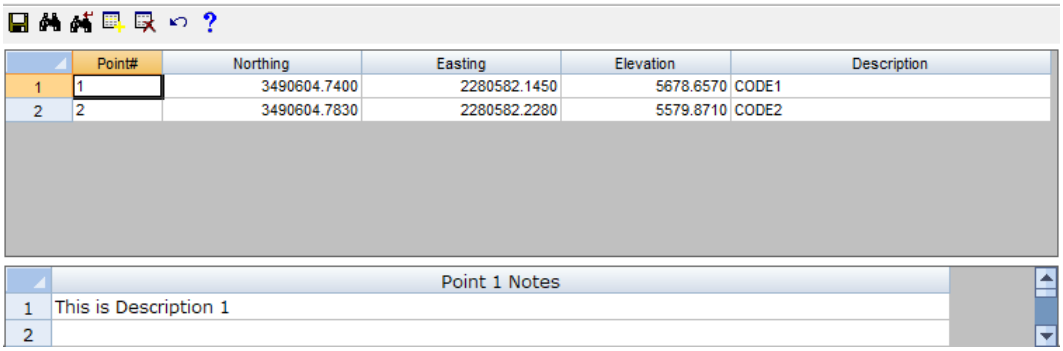
and export this file:

```
1,3490604.740,2280582.145,5678.657,CODE1,This is Description 1
2,3490604.783,2280582.228,5579.871,CODE2,This is 2nd Desc
```

Then we can import it into Survey:



Which results in:

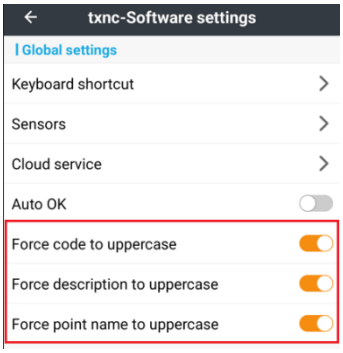


	Point#	Northing	Easting	Elevation	Description
1	1	3490604.7400	2280582.1450	5678.6570	CODE1
2	2	3490604.7830	2280582.2280	5579.8710	CODE2

	Point 1 Notes
1	This is Description 1
2	

CAPITALIZATION

The options to capitalize Point names, Codes and Descriptions were added in version 20241018 so it is now possible to force these fields to be uppercase:



If you update from a previous version of LandStar, you will need to re-download the **USA localization package** to see these options.

Dumping the receiver's FIX

The new CHC receivers don't always lose fix when inverted.

You can add the **Reset GNSS** button to the tool tray in most survey methods. This deletes the receiver ephemeris and cycles the power on the GNSS engine. A full dump.

If you click on the black top bar (where the SV count and instrument status is shown), then click the 3-dot button there will be a path to reset GNSS.

In November 2024, we added a FAST Reset which disables tracking, then reenables, however it does not power cycle the GNSS engine.

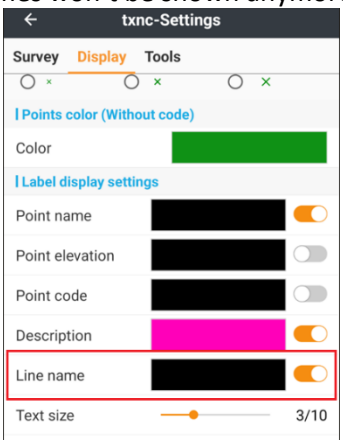
I don't like having names automatically assigned and shown on lines that I draw

From the main menu, click on:

Blue-Guy (top left corner) >
Software settings >
Display settings >

drag down to **Label display settings**
disable the slider on the right side

Line names won't be shown anymore:



I am always accidently turning off the basemap by accidently clicking the basemap toggle

From the main menu, click on:

Blue-Guy (top left corner) >
Software settings >
Display settings >
drag down to **Miscellaneous** >
disable the slider **Toggle Basemap Display button on map screens**

Is it possible to load a Trimble or Topcon site calibration file in LandStar?

Yes:

Project > **Coordinate system** > **3-DOT** > Load from file

will accept a Trimble .DC, .JXL or .CAL file (also Leica .LOK) Works or nearly works, most of the time.

Or, if the base job is just in SPC (State Plane Coordinates), then:

Survey > **Site calibration** > **3-dot button** > **import**

will read those formats (above) and load the grid of point-pairs.

Changing the underlying coordinate style for a point

How do I use points imported from another job to add to calibration (**Import** > **Other formats** (tab) > **Load from an existing project**) Is there a way to use this imported point in a site calibration that requires a GNSS position?

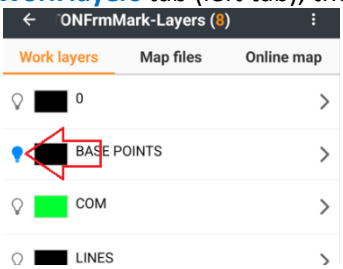
Bring the point in, then edit the point in the point list by dragging the line to the right and clicking on the gray pencil, then use the drop down to change the point coordinate to **Local Lat/Lon (dd.mmssssss)**.

You can now use the point in a calibration that requires a GNSS position.

How do I see my Base position in CAD?

In the **CAD view**, click on the **Layers** button in the **Tool Tray** :

On the **Work layers** tab (left tab), there will be a layer named **BASE_POINTS**:



Click on the lightbulb to the left to turn the layer on. Click back and the base will be shown with a base icon next to the name:

Never rotate the tablet screen!

Screen rotation is turned off for the tablet (Settings > Display > Advanced > Auto-rotate screen is disabled).

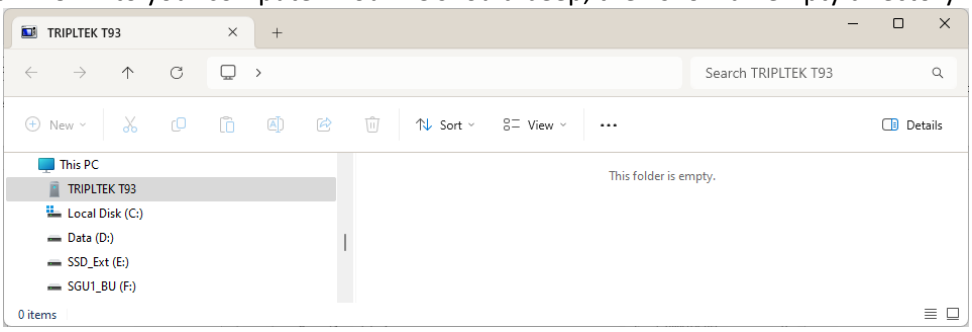
But a little rotation button shows up on the lower right corner of my screen when I am walking in the field and I click it by accident, the screen is stuck in Landscape mode.

Get the ZIP file in this folder:
https://igage.com/out/CHC/LandStar8/faq/NoRotationSuggestionFix/index.htm then decompress it and read the text file.

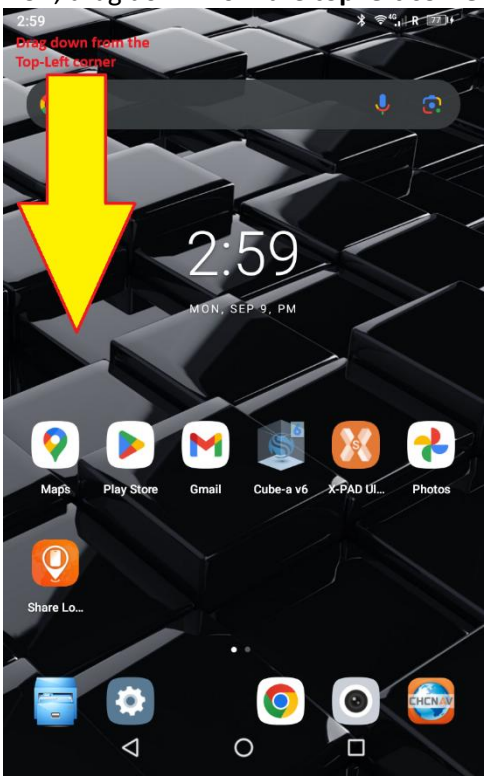
I plug in my TriplTek and it mounts as an empty drive! I want to move files back and forth.

When you plug the Type-C cable from the TriplTek9 (TT9P) to a computer, it initially does not share the device contents as a disk drive. It connects for CHARGING only. This FAQ shows how to allow file access.

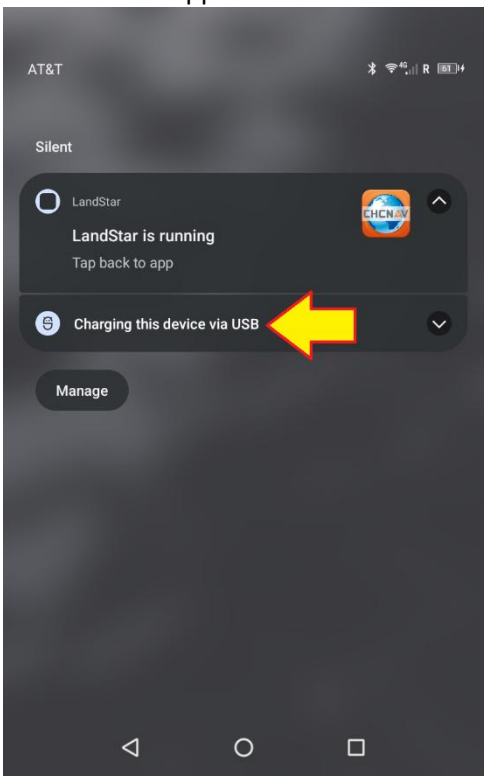
Plug your TT9P into your computer. Your PC should beep, then show an empty directory folder:



On the TT9P, drag down from the **top left corner** of the screen:

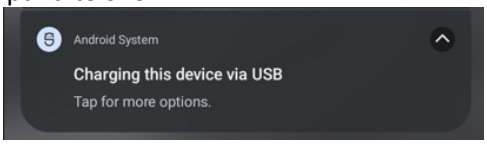


A system window will appear:



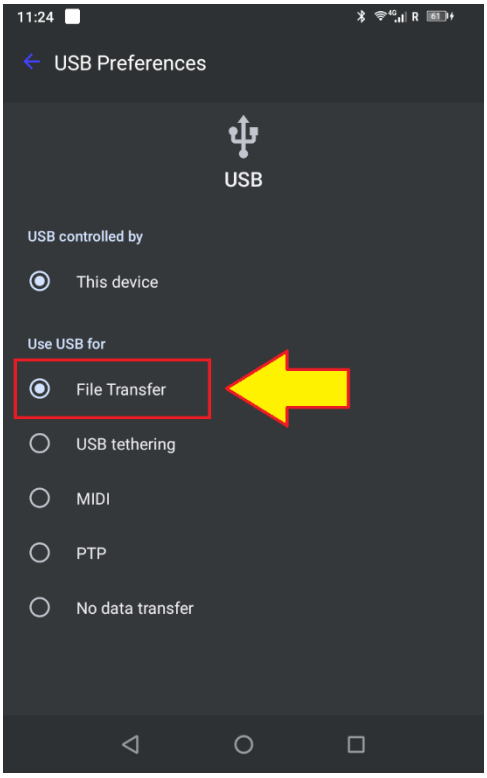
Click on the USB message that indicates the connection is for charging only.

It will expand to show:

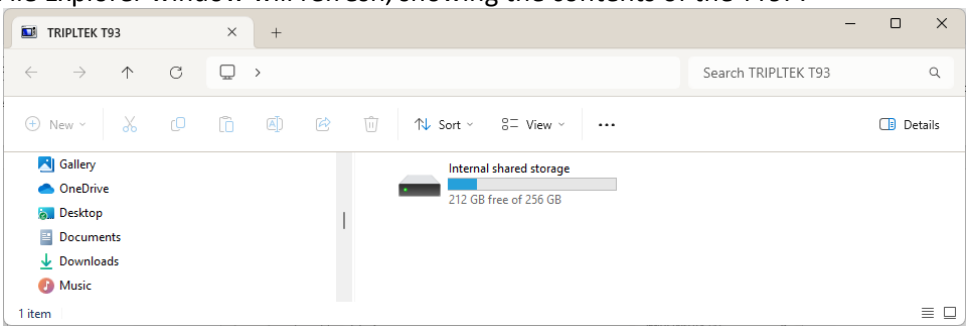


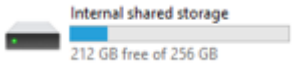
Click it again.

Change the mode to **File Transfer**:

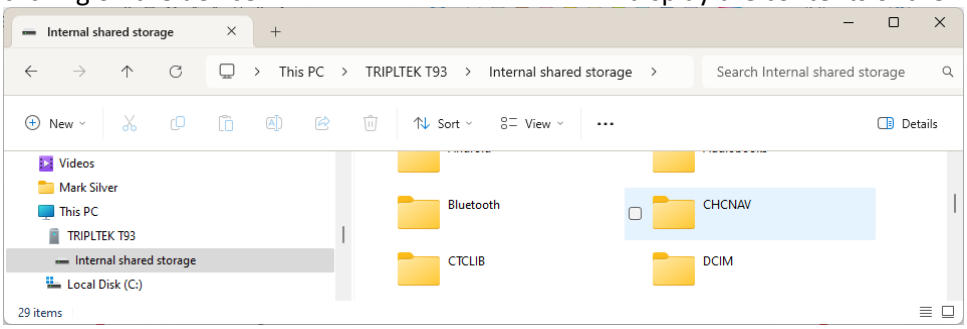


The PC File Explorer window will refresh, showing the contents of the TT9P:



Double-clicking on the device 

will display the contents of the TT9P:



This sequence is designed to protect you from having the entire contents of your TT9P stolen from you when you plug into a charger that has been compromised to allow remote access. All modern Android devices include this protection.

I can not get a cellular SIM card to work in my Tripltek 9 Pro!

Long answer:

[watch the video on how to install and provision a simbase card]

Short answer:

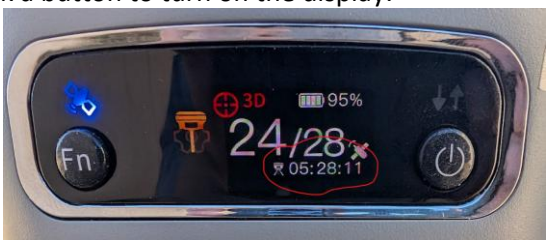
You need to set up the APN. To do this, there is a tricky step where you click on APN to add, but there is not a **Save** button. The **Save** function is addressed by the **3-Dot** button at the top right corner of the menu. Nothing else in Android land works this way.

Also, if you are using a simbase card [see simbase] even though the simbase interface tells you that the card is active, we think it takes ~20 minutes for the status to propagate through the cell networks. So, after enabling and setting the card up, wait 20 minutes before trying.

How do I know if I am recording a file on my receiver?

iBASE: click the left button until the bar moves to 3rd line. Then click the right button and it will show the recording time:

i83: Click a button to turn on the display:



The time is in little numbers at the bottom.

The Verified survey does not automatically increment the point number!

Correct, because typically you are going to rotate the pole and occupy the same point again. Most other methods do auto-increment by the value you choose in Settings.

What is the warranty on iGage and CHC receivers?

2-years, however batteries are 30-days and cables are 90-days.

Don’t leave your receivers in your pickup truck with the windows rolled up in the summer!

Can I use my iGage/CHC receiver as a base with my RTK drone?

Yes. It works great! See: https://igage.com/out/CHC/faq/iG_CHC_FAQ_NTRIPCaster_via-WiFi_R002.pdf

Can I use my iGage / CHC receiver with SurvPC?

If you must, read this: https://igage.com/out/CHC/faq/CHCiXXwithCarlsonSurvXX608_r002.pdf

Can I open an existing Carlson SurvPC job in LandStar8?

Yes, it will work well.

First set the projection to match Carlson (usually a State Plane Zone). Then **Project** > **Import** > **Other formats** (tab at top) > select Carlson CRD/CRDB file > click **Next** and browse for the existing CRD file. This will import all of your points.

If the job has a Localization (Site Calibration), click on **Survey** > **Site calibration** then click on the 3-dot button at the top and click on **Import**. Browse for the SurvXX job's .LOC file and open it. This will load all of the calibration point pairs as they were defined in SurvXX.

The LandStar8 job will now match the SurvPC job.

Can I import my Carlson CODE list into LandStar8?

Yes. The code list will be stored as a .FCL file on your Carlson collector. Put a copy of the .FCL file on your LS8 device, then **Project** > **Codes** > **3-Dot** button (top right) > **Load from file**.

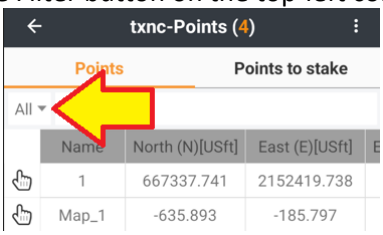
When I store a point using Visual survey, it prepends VRTK_ to all my point names

The first time you store a **Visual survey** point, erase the VRTK_ from the beginning of the name. LandStar will remember this choice and subsequent points will just be integers.

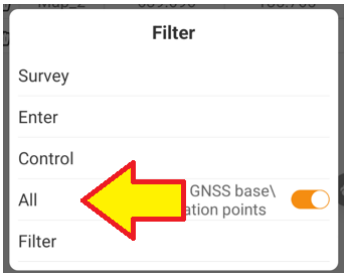
When I select a point from the Point list, I can't find the point I need to select

The point may be of a type that is hidden.

Click the Filter button on the top-left corner of the grid:



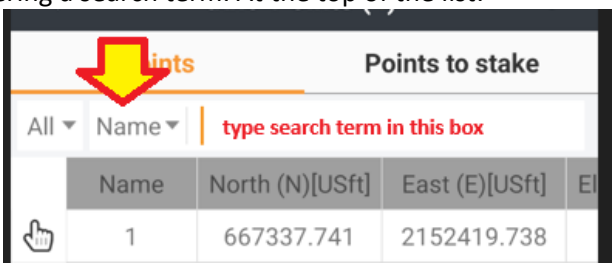
Then click on All:



The Filter is hiding the point you want. Even if it is set to **All**, sometimes you have to retrigger the **All** selection with this sequence.

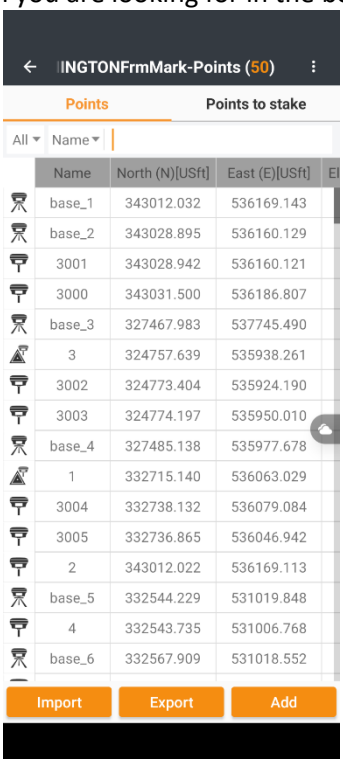
I am searching for a point, but I can't find it because the point order is by time, and I have thousands of points.

Try entering a search term. At the top of the list:

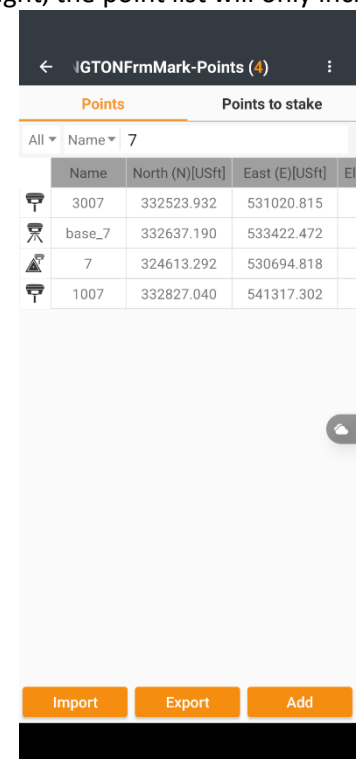


If you click on the box where the red/yellow arrow above points (Name) you can switch between searching the **Name**, **Code** or **Description**. Select the field you want to search on, then type in part of

the item you are looking for in the box to the right, the point list will only include matching entries:

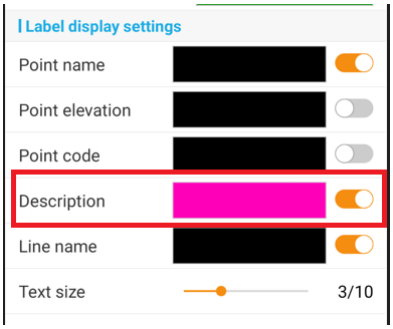


"7"



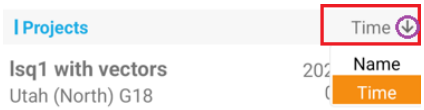
I can't see the Descriptions on the map screens

Click the **Option** gear, then **Display** (tab), then scroll down to **Label display settings**, enable the **Description** and optionally set the text color.



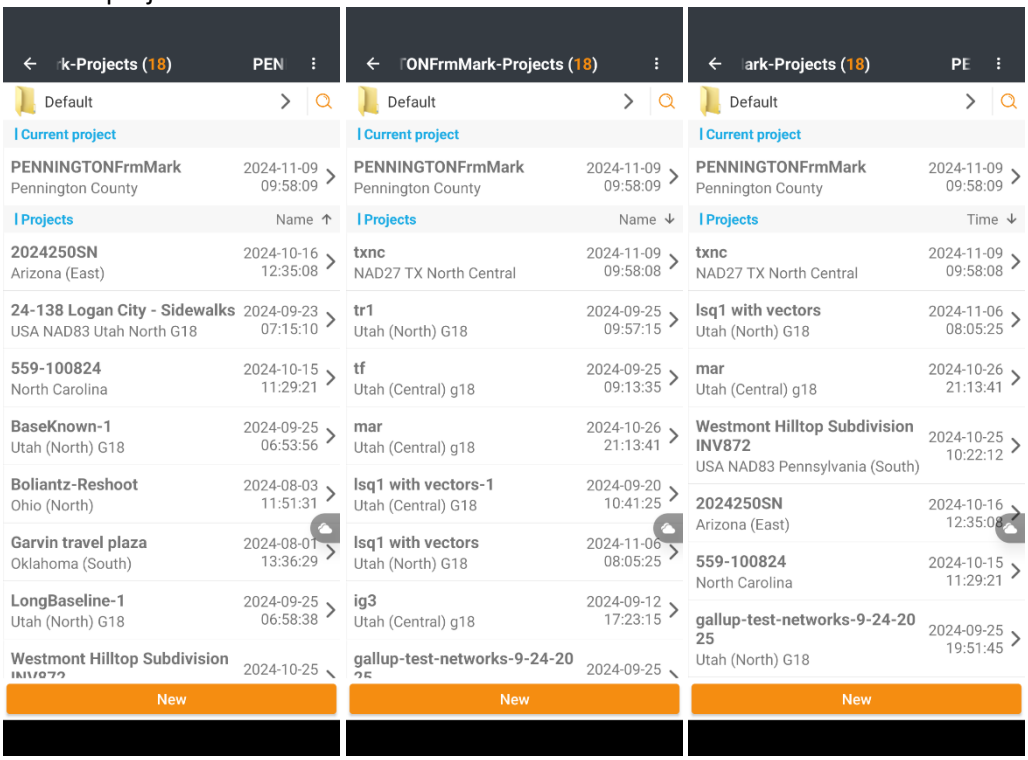
Sorting the project list

When you look at the Project list the Current Project is shown at the top of the list. The next section starts with a blue |Projects header:



If you click on the Up/Down arrow (circled in purple above) it will change the sort order for the selected Time or Name. If you click on Time/Name, a drop-down box will appear, and you can sort by

creation date or project name.



Name increasing Name decreasing Time decreasing

When I click on the store point button, it asks if I want to turn off the IMU!

You are pressing the IMU control button:

Press the Start Measurement button instead:

How do I type an ‘M’ for meters when entering an Instrument Height?

When entering a field that is primarily numeric, a numeric keyboard like this will be shown:

If you need a 'M' for meters, or another letter, click on this button:

and the keyboard will expand to alphanumeric:

If you don't have the key, then install the Google Keyboard **GBoard** from the play store: see the next section.

Install the Google Keyboard GBoard

The Google keyboard **GBoard** is highly recommended for use with LandStar. **GBoard** can be downloaded and installed from the Google PlayStore if the device has GMS (Google Mobile Services).

Play Store > search for **Gboard** > Install **Gboard – the Google keyboard**

Once installed follow the instructions to select and enable Gboard as the default keyboard.

When the keyboard is shown, you can change the **Gboard** preferences by clicking the **Settings** gear:

Click on **Preferences** then:

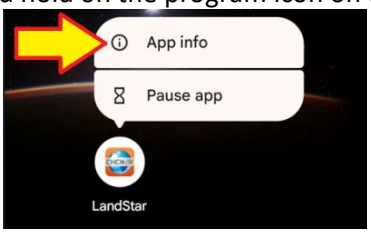
Enable **Number row**

Enable **Long press for symbols**

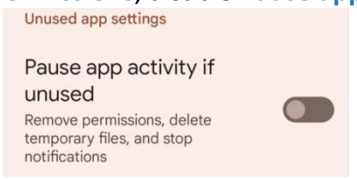
LandStar is sluggish or hangs for a few seconds

After installing LandStar, make the following operating system changes to prevent LandStar from freezing or losing permissions when running in the background, or after a few weeks of non-use.

Click and hold on the program icon on the desktop, then click the App info **App info** button:

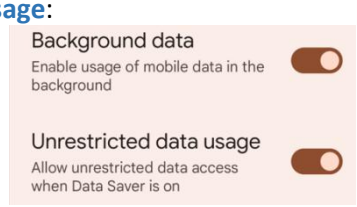


Under **Permissions**, disable **Pause app activity if unused**:

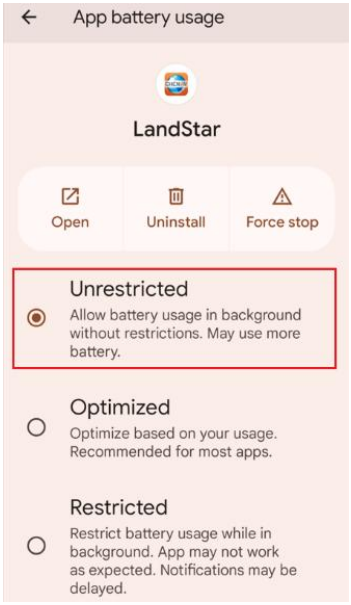


This will prevent the operating system from automatically removing permissions and cached files if LandStar is not used regularly. The removal of some permissions may result in LandStar being unable to start.

Under **Mobile data & Wi-Fi** enable background usage of mobile **Background data** and **Unrestricted data usage**:



Under **App battery usage** change battery usage to **Unrestricted**. This allows LandStar to continue to communicate with receivers and devices when another application is opened or while using the phone:



How do I install a demo copy of LandStar8 on my phone?

Please follow all of the instructions, in order presented in this FAQ:

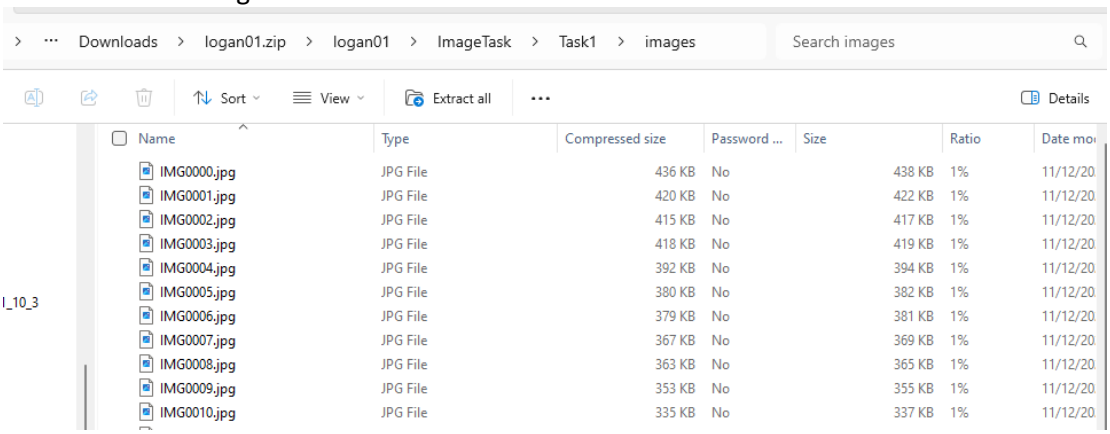
https://igage.com/out/LandStarDistribution/LS8_Installation_Instructions/LandStar8.01_Instalation_r605.pdf

Best way to share photos collected with a Visual Survey to a PC for viewing?

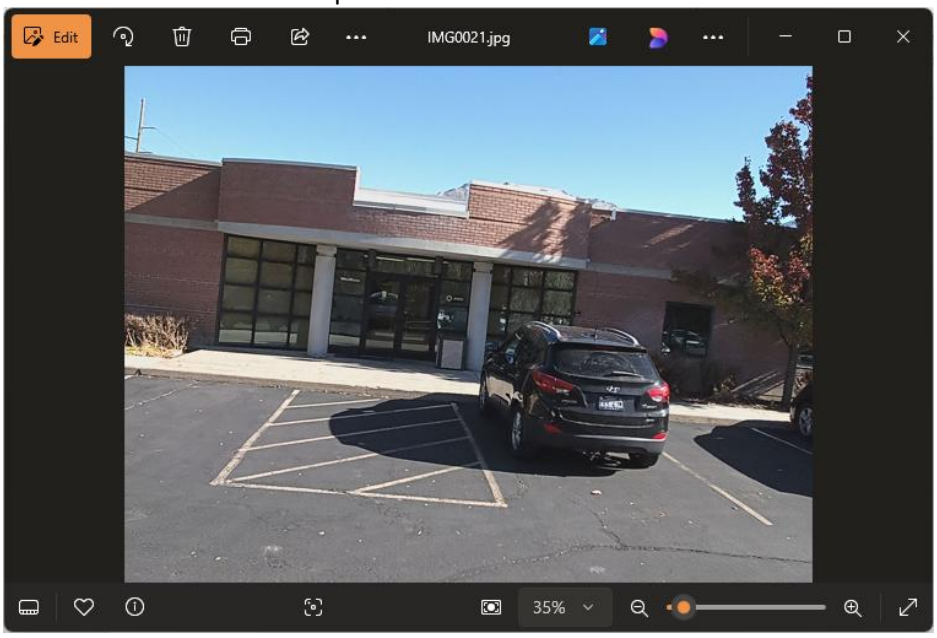
Just use the project share function (drag project to the right, then click on the orange share button). The file is probably too big to email, but it can be placed onto a thumbdrive or via the cloud using Google Drive/Onedrive/Dropbox.

Here is a link to an example file:
https://igage.com/out/CHC/LandStar8/faq/sampleVisualSuveyJob/logan01.zip

The shared file will have a .ZIP extension and can be opened in Windows Explorer. Drill down to the Project Folder (logan01 in the example file), then **ImageTask**, then the task number **Task1**, then images, all of the saved images from the task will be in the folder:



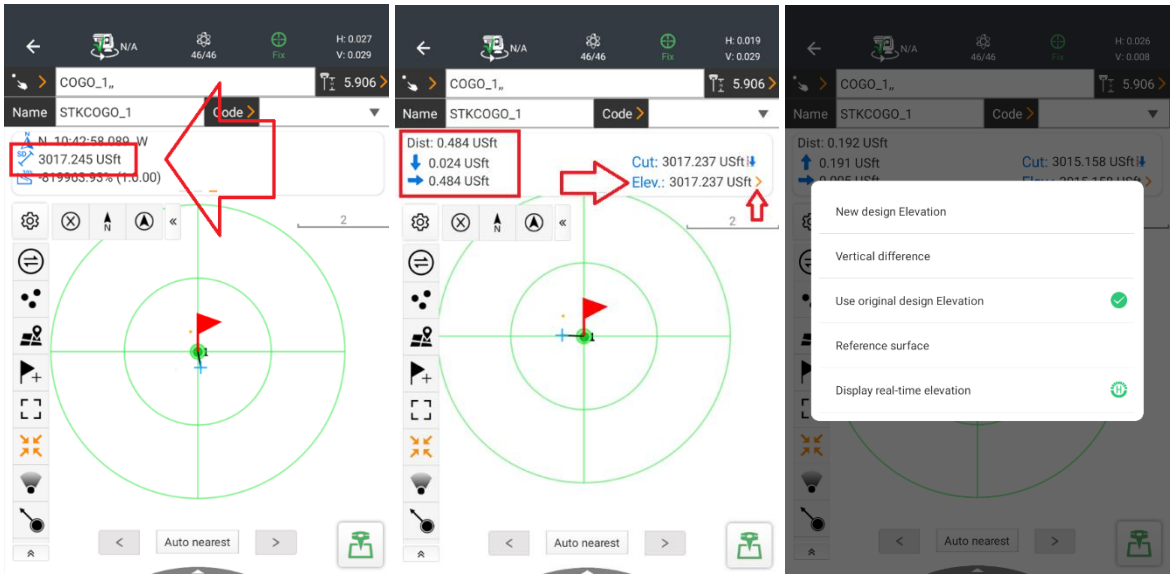
You can then click on the individual photos:



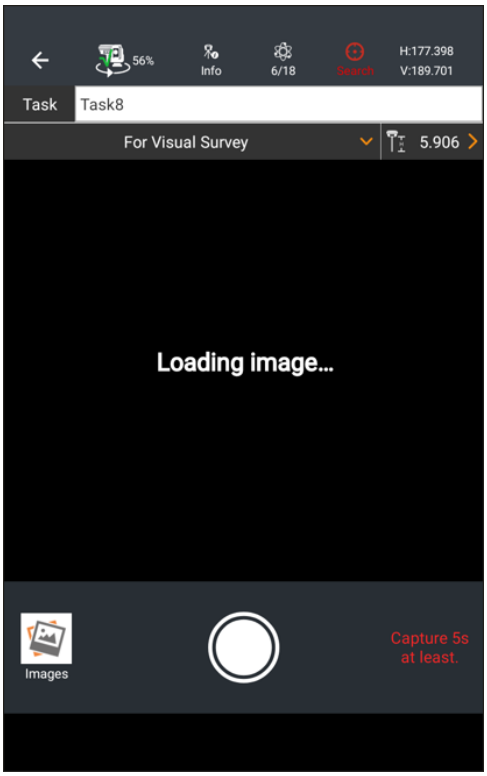
If the modeling option is enabled on the receiver, then the photos will have Lat/Lon/H in the Exif properties.

I am staking a point, I am within 0.4’ of this point, but my display says that my slope distance is 3017 feet away!

You are staking a design point with a zero elevation and your true elevation is 3017 feet. You can modify the design elevation by clicking the delta in the bubble at the top of the staking screen:



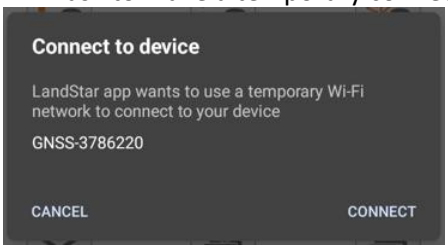
I am using a visual receiver (i89/i93) in 'Visual survey' mode. When I connect it says: 'Loading image…' and never shows a picture.



Exit LandStar8.

Go to Wi-Fi settings, click on the receiver Wi-Fi entry, if there is a gear matching **GNSS-*sn*** of the head, click on the gear and then **Forget** the device.

Start LandStar8 again and click on **Instrument Profile** then pick the receiver profile again. The data collector will ask to make a temporary connection to the receiver:

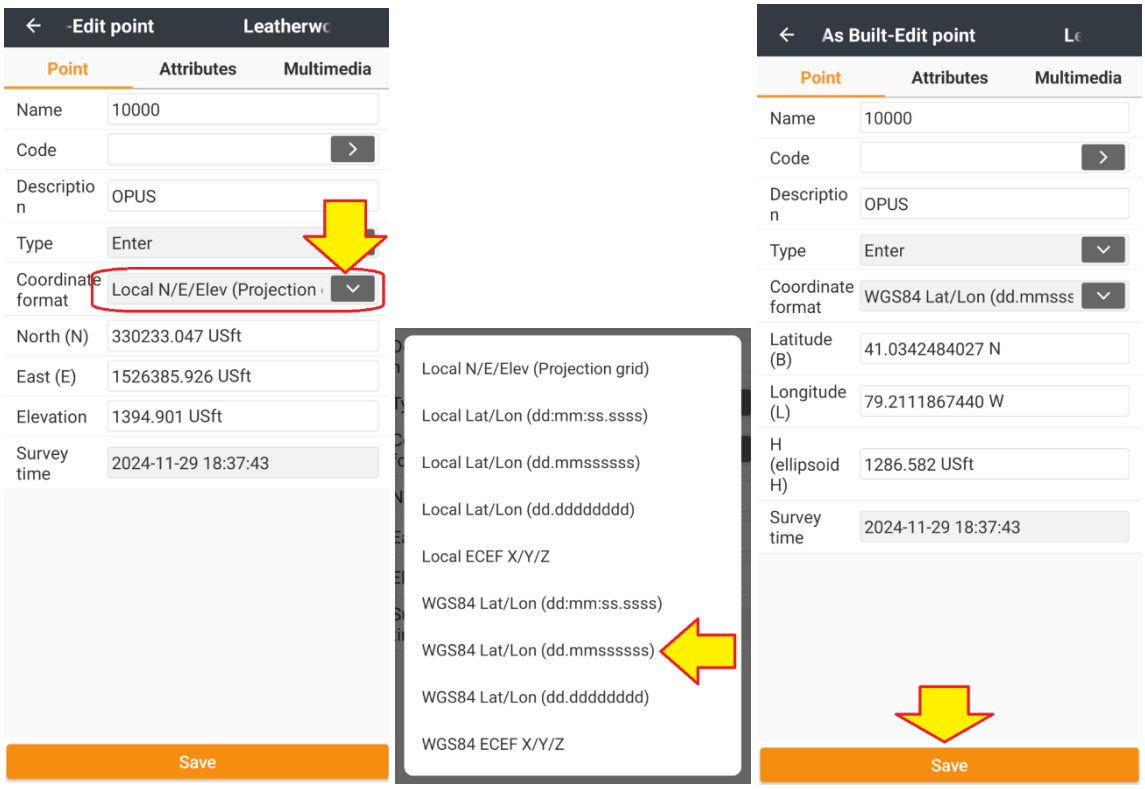


Click on **CONNECT**.

It usually works and continues to work for a long time. This may have something to do with a system security setting?

I want to use a point for calibration, shift or some other operation that requires a GNSS value (Lat/Lon/EHeight), but the point I have is projected (North, East, Height) only.

Open the point list, drag the point in question to the right and click on the gray edit pencil:



Change the **Coordinate format** to **WGS84 Lat/Lon (dd.mmssssss)** then click **Save**.

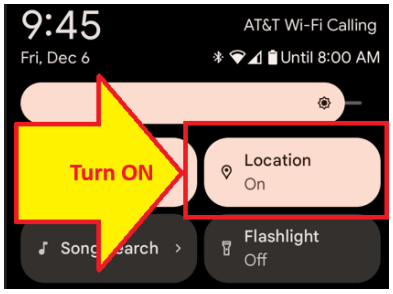
My version of LandStar8 does not have an 'Instruments profile' button!

By default, the **Instruments profile** button is 'hidden' under the + More button. Go to the **Config** tab, click the **+ More** button, click on the bouncing blue **+** button at the top right corner of the **Instrument profile** button and it will move to the main **Config** page. Click **Back** to exit the **More menu**.

The operating system repeatedly asks for location permission for LS8, however it is already granted.

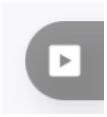
LandStar8 may have the required permission, however **Location** services may be GLOBALLY DISABLED:

Tripltek 9 Pro



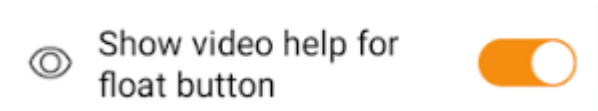
Google Pixelx

There is a little play button on my screen. How do I make it go away?



< If you see this on the lower right corner of the screen, then…

Click on the Blue guy (top left corner) > then on the left panel look for “Show video help for float(ing) button”:



Turn slider off.

How do I use Dropbox with LandStar?

Open the **Play Store** search for **Dropbox** and add the **Dropbox** app to the tablet.

Open **Dropbox** app and sign-in or make a new account.

Now, when you **Export** and enable the **Share** slider, **Dropbox** will be available as a target destination.

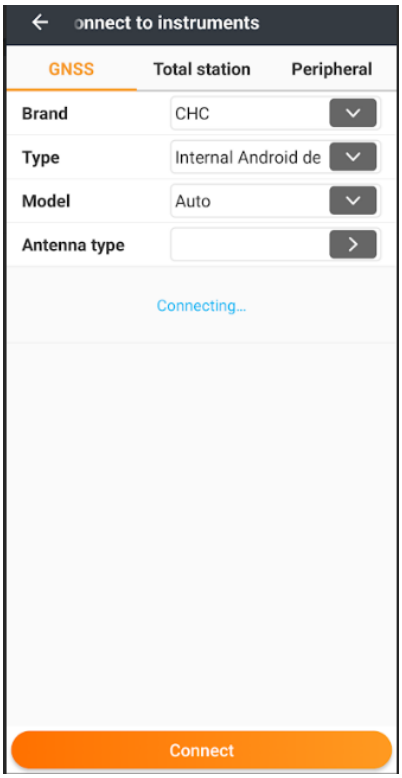
Dropbox is not integrated into LandStar8 as a cloud provider (for importing files directly from the cloud.) Instead open the **Dropbox** app and find the files you want, download them to the **Download** folder and then import directly from the **Download** folder.

How do I connect LandStar8 to the internal GNSS receiver on my data collector?

Config > **Connect to instruments**

If the data collector is currently connected to something, click the **Disconnect** button at the bottom.

Configure as shown here:



Click the **Connect** button.

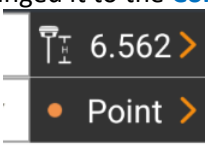
You may want to also save the current settings (all of the tolerances and settings like **GNSS** > **Survey** > **Store fixed solutions only**) to a named set: **BlueGuy** (top left corner) > **Software settings** > **Save** then **Save to file** and enter an appropriate filename name like **RTK**.

After you change all the tolerances and settings for use with the internal GPS, save these settings (perhaps as **IntGPS**) so you can quickly switch back and forth.

When I try to store a point, I get a confusing message about Corner Point and I can't continue.

You have inadvertently clicked this **Map Survey** type screen icon:

And changed it to the **Corner** type survey:

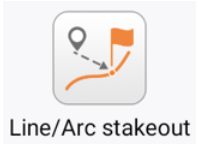


Click it again and switch back to **Topographic** or **Quick topographic** mode.

Staking a line between points, without drawing a permanent line

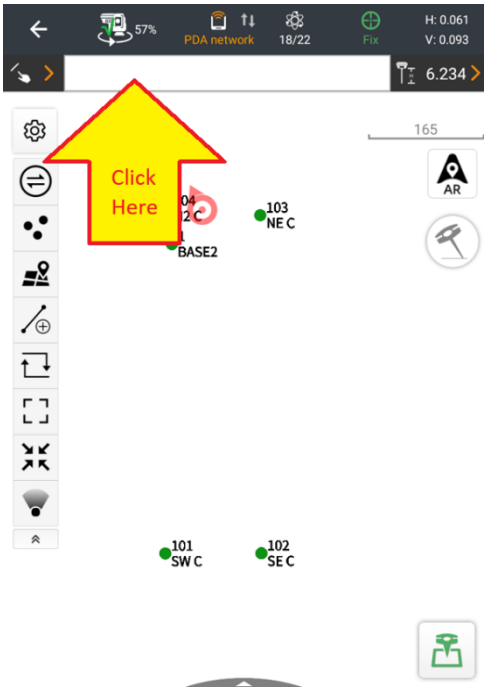
In version 20241205 a new feature has been added to allow building a temporary line between points, then staking the temporary line directly (with stationing, random or node stationing.

To begin, click the

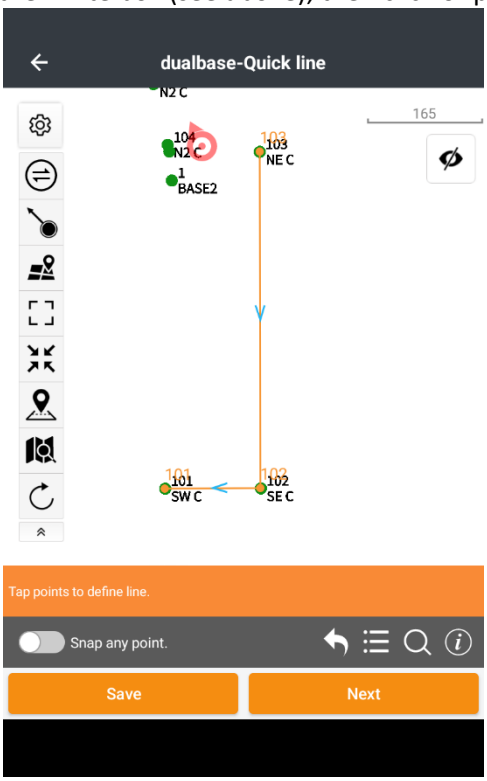


Line/Arc stakeout button from the main menu Survey tab.

The **Line stakeout** menu will be shown:

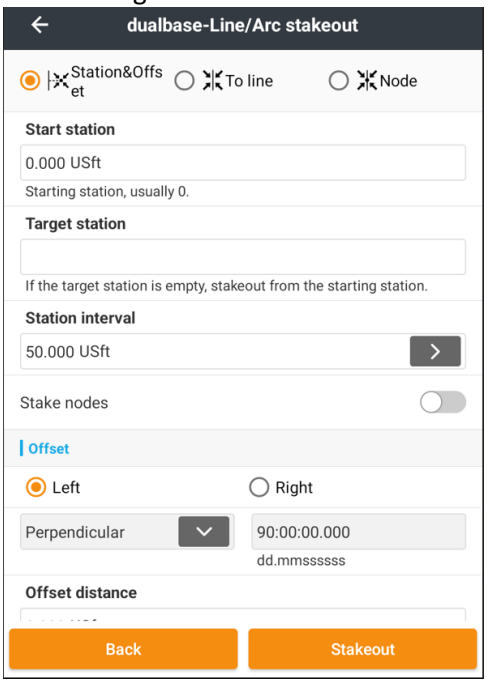


Click in the white box (see above), then click or pick a series of points to build a temporary polyline:



You can also pick points using the **Point list**, Clicking the button will display the length and bearing of the defined line segment or polyline details. The **Undo** button removes the last drawn segment.

Click **Next** to complete definition of the polyline, then choose between Station & Offset, **Random** line or line **Node** staking:

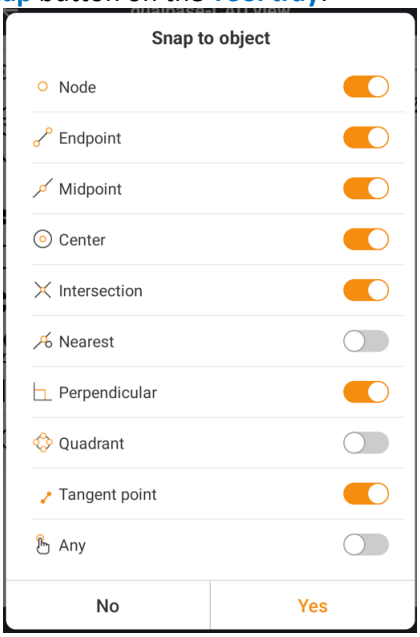


Finally click Stakeout to continue normal line staking.

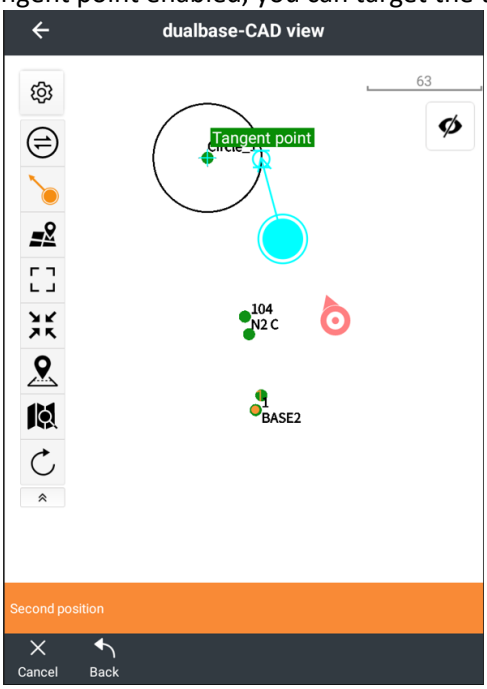
Circle Tangents

Version 20250123 introduces the ability to pick the tangent point on a circle for drawing a line.

Tangent point is defined in the **Snap to object** menu, which can be shown by click-and-holding the  **Snap** button on the **Tool tray**:

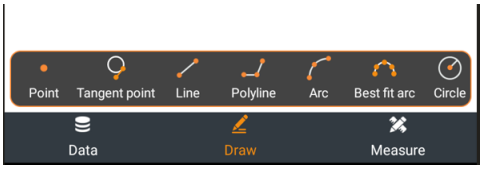


With Tangent point enabled, you can target the tangent point of a circle when drawing a line:

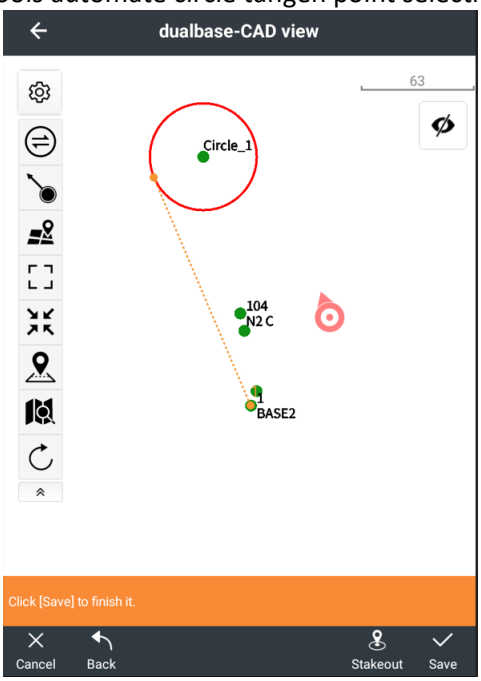


Dedicated **Tangent point** drawing functions have been added to the main menu **Tools** tab:

And the Draw menu within the CAD view:

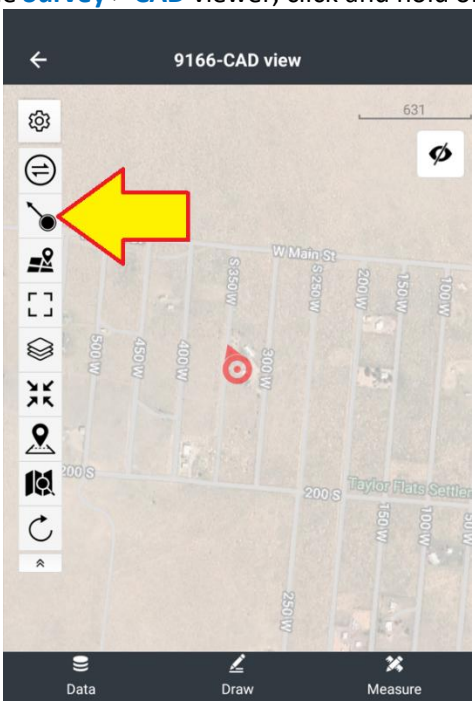


These tools automate circle tangen point selection:

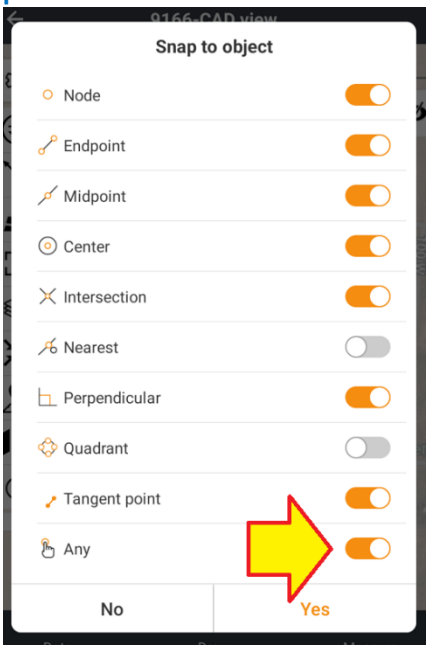


How do I add a random point, from the background image?

From the **Survey** > **CAD** viewer, click and hold on the **Snap** tool:



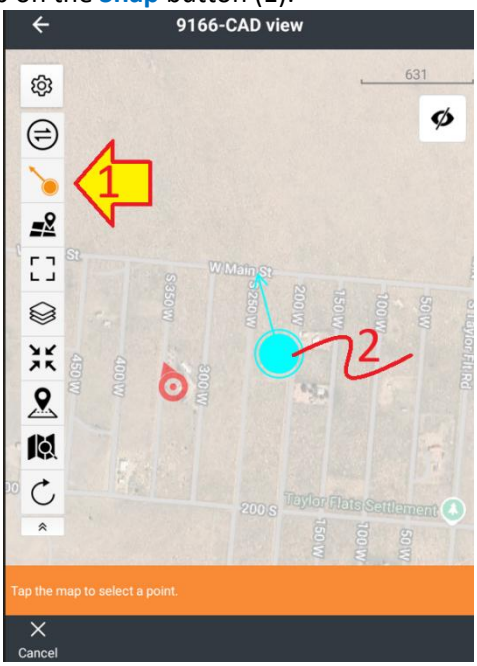
The **Snap** menu will be shown:



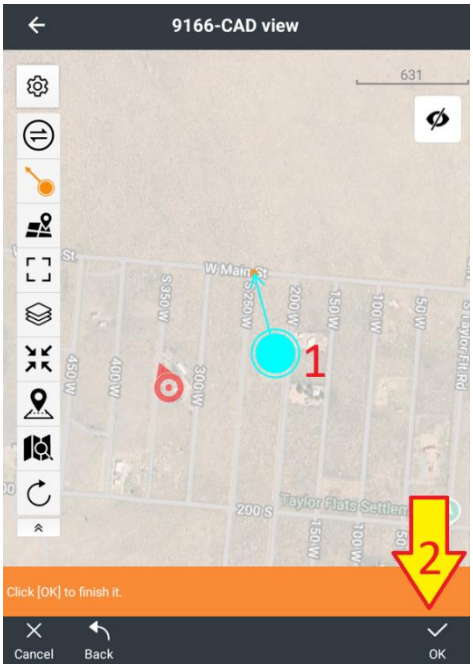
Turn the **Any** slide on, then click **YES**.

Click on **Draw** (1) then **Point** (2).

Now tap on the **Snap** button (1):

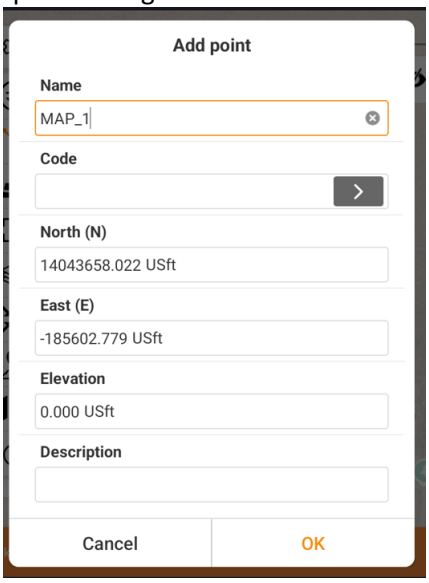


Then drag the Snap tool (2) to the location where you want to set a point. When you release your finger from the cyan dot (1), an orange point will be left on the map:



Click **OK** (2).

The Add point dialog will be shown:



After entering the **Code** and **Description** click **OK**. A new point at the clicked location will be in your **Point list**.

Data collector will not connect to receiver by Bluetooth

This issue happened on a Samsung S24+ phone. It may be a single occurrence issue, however if it happens again, this description might save you several hours.

When Bluetooth was selected, the GNSS-xxxxxxx instrument was never discoverable from within LS8. The instrument could be discovered and paired in the OS Bluetooth Manager, but even when paired it never showed up in LandStar8 as an instrument that could be connected to.

To fix the issue, we clicked and held on the LandStar8 APP icon on the desktop, clicked on the little (i), then went to Storage and cleared the cache, then cleared the data. Upon restarting LandStar8 again, we had to reauthorize all the permissions and download the Localization package again. Instrument profiles and the LandStar serial number were not lost.

What is FEC when setting up radio protocols?

FEC is Forward Error Correction. See https://en.wikipedia.org/wiki/Error_correction_code for a detailed description of exactly how it works.

This setting is available in these radio protocol modes:

Satel, Transparent EOT

This setting is forced ON in the TrimTalk 450 protocol.

Turning on FEC adds about 30% additional overhead to the message. With very high satellite availability, this will increase the message length above the carry capacity of the radio channel.

For example, with RTCM3.2 MSM4, with 38 SV's tracked, a typical single average message may be 740 bytes. Turning on FEC makes the message length 970 bytes (740 payload+ 222 EC overhead). At

9600 baud, there is time in one second for 960 bytes. Thus the transmission channel is completely saturated and is unable to empty out the transmission buffer every second.

Because a new message is sent every second, there may be no benefit to including error correction as the Rover typically will only need a single message every 5 seconds for optimal operation. However, in a continuously noisy environment, FEC ON may have a significant advantage over FEC OFF.

The Satel format allows double the data to be transmitted in the same bandwidth:

TRANSPARENT EOT	12.5 KHz	4800 baud	480 CPS
SATEL	12.5 KHz	9600 baud	960 CPS

Because a message must be sent twice per second for repeater operation, the SATEL 19200 baud mode is typically the only protocol that can be time-store repeated. However, the 19,200 baud protocol is 25 Khz bandwidth and most FCC licenses are limited to 12.5 KHz.

In this environment, the extra 30% overhead is a very bad thing, thus we recommend FEC OFF or DISABLED.