

iGUIDE[®] PLANIX

Instruction Manual v1.7

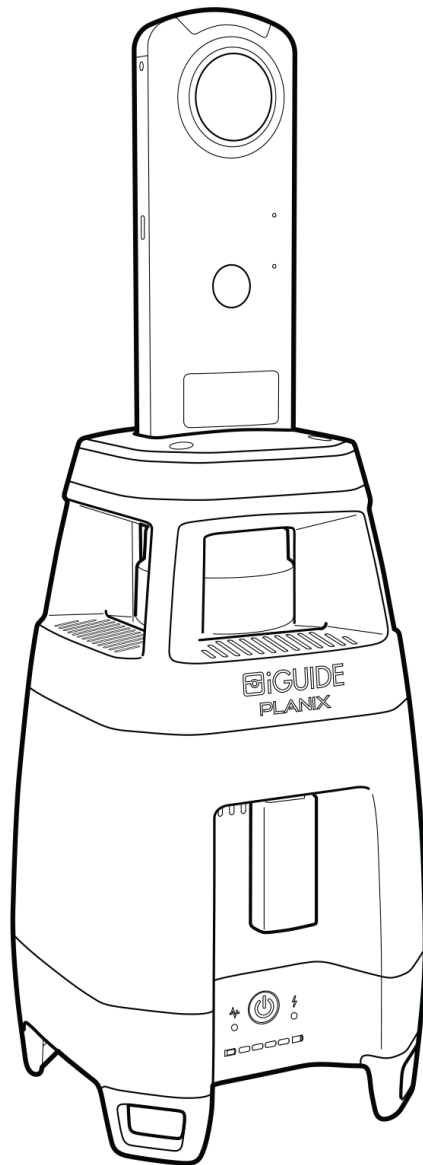


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Regulatory Information

Manufacturer: Planitar Inc.
Product Name: iGUIDE PLANIX
Model: IMS-6

COMPLIANCE



This product has been tested and was found to comply with the following standards:

- **FCC CFR 47, PART 15, SUBPART B, Class B** – Unintentional Radiators.
- **ISED Canada ICES-003, Issue 7** - Innovation, Science and Economic Development Canada, Verification Authorization - Information Technology Equipment (Including Digital Apparatus)
- **CISPR 32:2015+COR1:2016/ EN55032:2015+A11:2020, Class B Multimedia Equipment** - International Electrotechnical Commission (International Special Committee on Radio Interference). Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements.
- **CISPR 32:2012 / EN 55032:2012+AC:2013** - Class B - Limits and methods of measurement of radio disturbance characteristics of Information Technology Equipment.
- **CISPR 35: 2016/ EN 55035:2017**- Electromagnetic Compatibility of Multimedia equipment - Immunity Requirements
- **ETSI EN301 489-1 V2.2.2 (2019-11)** - European Telecommunications Standards Institute (ETSI) ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU and the essential requirements of article 6 of Directive 2014/30/EU
- **ETSI EN 301 489-17 V3.2.2 (2019-12)** - ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband Data Transmission Systems; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU
- **IEC/EN 60825-1:2014** - Class 1 laser product.
- **CSA-C22.2 NO. 61010-1-12** - Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements - Third Edition; Update No. 2: April 2016
- **UL 61010-1** - Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements - Third Edition; Including Revisions through July 19, 2019
- **IEC 61010-1** - Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements - Edition 3.1; Consolidated Reprint

LASER SAFETY

This product includes a laser scanner which is a Class 1 laser product and complies with IEC 60825-1: 2014 and 21 CFR Subchapter J Parts 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007.

FCC WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: Any product modifications not expressly approved by Planitar could void the user's authority to operate PLANIX equipment under FCC rules.

INNOVATION, SCIENCE AND ECONOMIC DEVELOPMENT (ISED) CANADA

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

DECLARATION OF CONFORMITY - SIMPLIFIED

This product complies with the essential requirements and provisions of RE Directive 2014/53/EU.

WARNING: Do not use the 5 GHz band (W52) of wireless LAN outdoors within countries belonging to the European Union. The outdoor use of the W52 is prohibited by law in many of these countries. Use the 2.4GHz band for outdoors.

USER INFORMATION ON ELECTRICAL & ELECTRONIC EQUIPMENT

Our products contain high quality components and are designed to facilitate recycling. Our products or product packaging are marked with the symbol below.



The symbol indicates that the product must not be treated as municipal waste. It must be disposed of separately via the appropriate return and collection systems available. By following these instructions, you ensure that this product is treated correctly and help to reduce the potential impacts on the environment and human health, which could otherwise result from inappropriate handling. Recycling of products helps to conserve natural resources and protect the environment.



For additional disposal information, contact local authorities in charge of E-waste management or your Planitar authorized distributor. For product take-back programs, contact Planitar Inc. at www.planitar.com

What's in the box

iGUIDE PLANIX

1. iGUIDE PLANIX
2. System battery
3. System power supply
4. USB 3.0 Flash drive
5. Carrying case with shoulder strap
6. RICOH THETA Z1
7. THETA lens cap

iGUIDE PLANIX Pro

1. iGUIDE PLANIX
2. System battery
3. System power supply
4. USB 3.0 Flash drive
5. Carrying case with shoulder strap
6. RICOH THETA Z1 (with calibrated lenses)
7. THETA lens cap

iGUIDE PLANIX Core

1. iGUIDE PLANIX
2. System battery
3. System power supply
4. USB 3.0 Flash drive
5. Carrying case with shoulder strap



Figure 1 - What's in the box

What's not in the box

- Tripod (ball head recommended)
- QR plate (Arca Swiss type recommended)
- WiFi enabled smart device (e.g. tablet or phone)

Visit goiguide.com/planix-recommended-accessories to see the current list of recommended accessories for iGUIDE PLANIX.

System Overview

PLANIX is an iGUIDE camera system designed to simultaneously measure and photograph spaces to create floor plans and iGUIDE 3D virtual tours. The PLANIX uses a built-in (lidar) laser scanner for gathering laser measurement data and a user-replaceable 360° camera for capturing panoramas. All surveyed data is stored on a user-replaceable USB flash drive. The scanner's laser is infra-red and is invisible. The PLANIX has a built-in Wi-Fi access point and you can connect to it from any Wi-Fi enabled device. It is controlled by the Survey web app that runs in a web browser. Phones and tablets with a 5 - 7" display are most convenient to use with Survey. The PLANIX is not user-serviceable and must not be disassembled or the Warranty will be void. It is recommended to use PLANIX with a QR (quick-release) plate and a ball head to allow for easy leveling on a tripod. Arca Swiss type QR plates with a release screw are recommended over QR plates with a release lever due to possible interference of the lever with the feet. Figure 2 shows the main components of the PLANIX camera system.

System Components

1. **360° camera** (and its power button location).
2. **(Lidar) Laser scanner**
3. **USB 3.0 port** (USB-A): all data is stored on the USB drive.
4. **System power button**
5. **Status indicator**: Blinks when the system is busy either during startup or while processing data. During startup, the Wi-Fi signal will not appear until the status indicator stops blinking.
6. **Battery charge level indicator**:
 - 4 bars: 76-100%
 - 3 bars: 51-75%
 - 2 bars: 26-50%
 - 1 bar: 5-25%
 - 1 bar, blinking: < 5%.
7. **Charging indicator**: Blinks while charging; lit steady when charging is complete.
8. **Charging port**
9. **Reset button**: Reset Wi-Fi and other settings to factory defaults.
10. **Mounting screw hole**: for attaching a QR plate with $\frac{1}{4}$ " screw.
11. **System battery access hatch**
12. **Feet**
13. **360° camera mount** (detachable): Attached using four M3-0.5x12, Phillips head screws (PH#1 drive).
14. **360° camera mounting thumb screw**
15. **USB connector** (USB-C): Connects the PLANIX Core to the 360° camera.



Figure 2 - System components

Handling & Care

Additional maintenance information is available in the System Maintenance section.

Handling the System

It is important to handle the PLANIX with care and to avoid storing or operating the camera in extreme heat or cold for extended periods of time. When placing the camera in resting position, the camera should be set upright. The PLANIX should be handled by gripping two opposing sides of the PLANIX body, or by gripping one side of the PLANIX body while supporting from the bottom side (see figure 3).

CAUTION: Removing the PLANIX from the carrying case by gripping the 360° camera must be avoided as doing this could damage the unit or negatively affect optical alignment.



Figure 3 - Resting (left), Handling (right)

WARNING: Do not spill any liquid onto the system and avoid allowing excess moisture to enter through the vent openings as this could cause electrical malfunction and damage the unit.

Camera Lens

Note that if fingerprints, dirt, etc. get onto the camera lens, image quality may deteriorate. When dust or dirt does get on the camera lenses, do not touch it directly with your fingers to avoid scratching the lenses with small hard particles that can be almost invisible to the eye. Either use a blower (available in stores) or optical grade compressed air to blow off any particles, or a soft cloth to gently dust off the lenses. You can also breathe on the lenses to create a thin layer of condensation and then wipe it off with a cleaning cloth held stretched between two hands such that no direct finger pressure is applied to the lenses (see figure 4).



Figure 4 - Cleaning the camera lens

If you have spots on the lenses that will not come off, try using a lens cleaning solution or pre-moistened lens cleaning tissues and gently rub the spot with soft cloth and avoiding direct finger pressure. Consider using the lens cap to prop the camera up for cleaning (as shown in figure 4).

Removing the Lens Cap

The lens cap from the 360° camera should be removed by gently pinching or squishing the cap on the sides covering the lenses and gently pulling the cap off, taking care to avoid touching the lenses.

Laser Scanner

The laser scanner optical window (central, black, plastic cylinder) must be kept free of fingerprints, dirt and dust for optimal measurement. Wipe it with a soft cloth and avoid scratching the plastic surface. Do not use any solvents!

System Power Supply

Use only the provided 12V 3.3A power supply, as it was designed to provide sufficient power to charge the system battery.

WARNING: Using a power supply with inadequate characteristics may damage the battery charging board and will void the Warranty.

System Battery

PLANIX uses a 7.2V 49.7Wh smart battery manufactured by RRC Power Solutions Inc, model number RRC2057. See the User Replaceable Accessories section of this manual for sourcing details.

When the PLANIX system is not going to be used for a prolonged period of time, the battery should be taken out of the camera while the remaining charge level is between 25-75%.

BATTERY WARNINGS

- Do not open or dismantle batteries.
- Do not expose batteries to heat or fire. Avoid storage in direct sunlight.
- Do not short-circuit a battery. Do not store batteries in a box, drawer, or storage container where they may short-circuit each other or be short-circuited by other metal objects.
- Keep batteries clean and dry.
- Do not subject batteries to excessive mechanical shock. In the event of a battery leaking, do not allow the liquid to come in contact with the skin or eyes. If contact has been made, wash the affected area with clean water and immediately seek medical advice.
- Do not use any charger other than that specifically provided for use with the equipment. See “Charging” section. Observe the plus (+) and minus (-) marks on battery and equipment and ensure correct use.
- Never use batteries of different capacity, size, type, or manufacturer within a PLANIX device.
- Keep batteries out of the reach of children at all times.
- Never use the PLANIX battery in an application for which it was not intended.
- **For optimal battery health, do not store fully charged or fully discharged batteries for longer than 1 month without use. Do not store PLANIX batteries for longer than 1 year without recharge.**
- **A fully charged battery can remain in the camera for 3 months before it discharges completely and enters a shutdown state. Batteries not charged within 1-2 days of entering a shutdown state (completely discharged) may require replacement.**
- All PLANIX batteries must be recycled or disposed of in accordance with national and local regulations. Contact your local representative for assistance. The batteries must be disposed of only in a discharged state at a collection center.

Charging

1. Remove the PLANIX camera system, system battery, and power supply from the carrying case.
2. Quickly insert the system battery into the PLANIX and ensure the compartment door closes completely.
3. Plug the power supply into an electrical outlet. On the power supply, a blue light should turn on to indicate that the power supply is working.
4. Plug the power supply into the charging port. After ~10 seconds, the charging indicator light on the PLANIX should turn on and begin flashing green to indicate that the PLANIX is charging. Normal flashing interval is ~1 second on and ~1 second off.
5. You can set the PLANIX upright on its feet on a flat surface or it can be put back into the carrying case.
6. Once the PLANIX is fully charged, the charging indicator light should turn solid green. Unplug the power supply from the system.
7. Unplug the power supply from the electrical outlet.

Notes

- The PLANIX smart battery is shipped in sleep mode. Before it can be used, the battery must be plugged in to charge for >30 seconds in order to disengage sleep mode.
- Only the specified power supply shipped with the PLANIX may be used to charge the system.
- To charge the 360° camera and PLANIX simultaneously, the PLANIX must be powered on. If PLANIX is powered off, its USB ports will not supply power to charge the 360° camera and the camera will be charged from the PLANIX system battery next time PLANIX is powered on, thus reducing the available system battery runtime.
- If the PLANIX is powered on while charging, the inactivity power off timeout settings are ignored.
- If the PLANIX is powered on while charging, the laser scanner will power off to eliminate noise and reduce required charging time.
- If the PLANIX is powered on while charging and the laser scanner has been powered off, taking a picture will power the laser scanner back on.
- The charging indicator light may blink rapidly if there is an error detected; remove and reinsert the power supply.
- Avoid inserting or removing the system battery while the power supply is connected.
- Avoid removing the system battery while the PLANIX is powered on.



Figure 5 - Charging, PLANIX turned on

Setup

1. Remove the PLANIX camera system from the carrying case.
2. Ensure the PLANIX system battery is charged.
3. Level the ball head on the tripod.
4. Attach a QR plate to PLANIX and attach the QR plate to the ball head on the tripod.
5. Raise the tripod so that the laser scanner is about 120 cm (~4 feet) from the floor surface for optimal measurement height and 3D touring experience.
6. Remove the lens cap from the 360° camera.
7. Ensure the PLANIX has a USB drive inserted.

Notes

- The 360° camera should not be gripped to remove the PLANIX from the carrying case.
- It's important to stage the property before beginning to survey: open doors, turn on lights, and ensure all rooms are cleared of clutter so as to allow a direct line-of-sight.
- Direct line-of-sight between consecutive camera positions is important to allow the PLANIX to see as many structural and non-structural elements of the home as possible and ensure successful automatic scan alignment.
- See [iGUIDE - Line Of Sight, Overlapping Data And Examples](#) (video) on YouTube.



Figure 6 - Proper tripod setup

- It's important to keep the tripod at a consistent height as much as possible for optimal 3D touring.
- Raise and lower the tripod if necessary depending on circumstances and surroundings.
- Avoid setting the PLANIX upon an unlevel surface without first adjusting the tripod.
- Consider loosening one of three tripod legs so as to allow the leg to swing freely in order to fit through narrow areas and doors more easily. When doing this, ensure that the loosened leg is securely extended before setting the tripod down for each scan.
- For direct attachment to a tripod without a QR plate and a ball head you may need a $\frac{1}{4}$ " to $\frac{3}{8}$ " adapter as $\frac{3}{8}$ " is a standard tripod thread.

360° Camera Installation

If you ordered a PLANIX Core configuration and are providing your own supported 360° camera or are replacing the 360° camera, follow the steps below, paying careful attention to detail. Figure 7 shows proper USB cable routing. **WARNING: DO NOT TIGHTEN THE FOUR M3 SCREWS USING EXCESSIVE FORCE.**

1. Remove the four M3 screws from the 360° camera mount using #1 Phillips screwdriver (user-provided).
2. Attach the 360° camera to the mount using the provided black thumb screw with ¼" thread.
3. Attach the USB-C connector to the 360° camera. There is only one orientation of the connector at which it will engage properly.
4. Attach the 360° camera mount to the system, routing the USB cable around the plastic screw boss and between the boss and the adjacent flat fin. There is only one orientation of the 360° camera mount at which it will engage properly.
5. Re-install the four M3 screws. **Do not over-tighten the screws or the threaded inserts into which the screws go will get pulled out from the plastic bosses.**
6. Power up the system, connect via Wi-Fi, and perform lens alignment from the Survey Settings page.



Figure 7 - USB cable routing

Connect

The Survey web app is used to collect data and is stored on the PLANIX itself. You will need to connect to PLANIX via Wi-Fi from a compatible smart device. Survey web app can then be loaded into a web browser.

1. Power on the PLANIX by pressing the power button. Wait for about 20 seconds for the status indicator to stop fast blinking.
2. Select the “planix-xxxxxx” Wi-Fi network on your smart device. The Wi-Fi password is the serial number as printed on the product label found on the base of the system. You may receive a message on your smart device which says that the internet is unavailable upon connecting (see figure 8); this is normal. PLANIX Wi-Fi access point does not provide or require an internet connection.
3. Open a web browser.
4. Enter the IP address “192.168.5.1” into the URL field.
5. Once the Survey web app loads, add it to the home screen of your smart device (see figure 9) to enable the full screen web app experience. You can also save it as a bookmark.

Notes

- The Wi-Fi signal will not appear until the status indicator stops blinking. It may take your smart device a few more seconds to re-scan available access points and make the PLANIX available for selection.
- When the Wi-Fi frequency band is set to 5 GHz, use the camera indoors only and select your country to ensure compliance with your local wireless regulations.

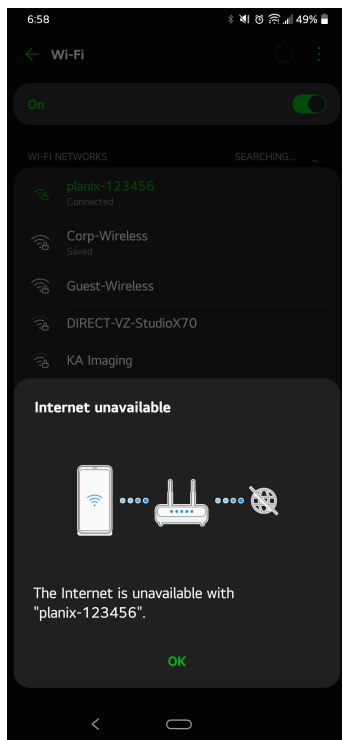


Figure 8 - Internet unavailable (on Android)

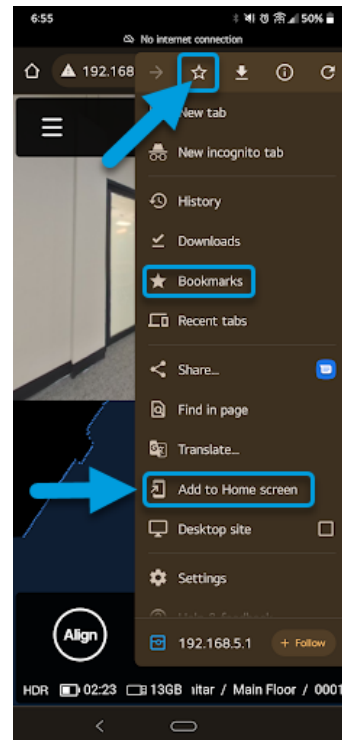


Figure 9 - Google Chrome options (on Android)

Typical Workflow

To produce an iGUIDE, it is necessary to capture images in every room to create 360° panoramas as well as collect laser measurement data, which will form a map of the space during the survey process. The PLANIX can be controlled from any phone or tablet over Wi-Fi through the Survey web application running in a web browser. Surveyed laser data and images are saved to a USB Flash drive attached to the PLANIX.

You will need to survey spaces that would typically not be photographed like attached garages, storage spaces, utility rooms, hallways, and landings. Details such as doors, windows, fixtures, and appliances need to be visible in the panoramas so that during drafting they can be seen and included on the floor plan.

It is recommended to check that the PLANIX is relatively level before each scan to aid the auto-level correction in Stitch post-processing software.



Figure 10 - Measure exterior wall thickness

Depending on the property, you may also want to measure the exterior wall thickness using a tape measure and record it in Survey (see figure 10). Typically, this is done at the front door jamb.

After the property has been surveyed, the data often must be copied from the USB drive to a desktop computer and pre-processed in the Stitch software before uploading it to the iGUIDE Portal for drafting.

Laser Scan Alignment

Laser data can be aligned both in Survey and in Stitch. It is critical to ensure all data is well aligned prior to uploading it to the iGUIDE portal for drafting.

Poorly aligned data sets may be refused by the drafting team, resulting in delayed processing times. See figure 11 for examples of varying laser data alignment.

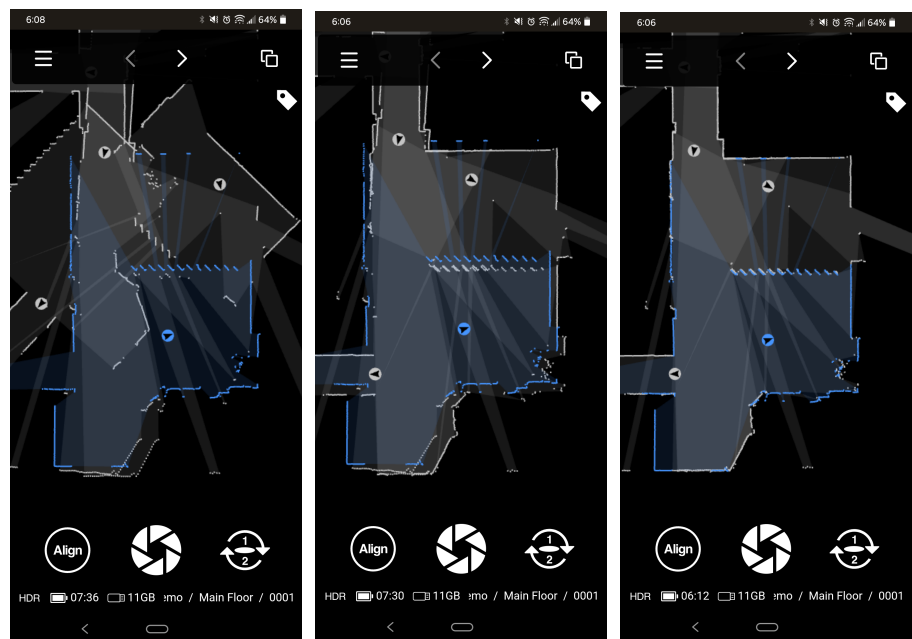



Figure 11 - (left to right) Not aligned, Almost aligned, Well aligned

Survey

Upon loading the Survey web app, the following message may appear on-screen: "The 360° Camera has not been aligned..." Follow the on-screen instructions, then proceed.

The Survey menu  presents the following options (see figure 12):

1. **Survey:** The main PLANIX and data alignment controls. Create a new scan or browse to view a previous scan.
2. **Project:** Create or select a project and project folder in USB drive.
3. **Floor:** Create or select a floor and floor folder (after selecting a project).
4. **Scan:** Select, edit, delete an existing scan (after selecting a floor).
5. **Settings:** PLANIX and Survey settings, system information and other options.
6. **Reload App:** Refresh the Survey web page after reconnecting to the PLANIX system.




Create a Project

1. Tap in the blank field on the Project menu and enter a name (figure 15).
2. Enter the exterior wall thickness in the field provided if necessary.
3. Usually, exterior wall thickness is measured at the front door jamb.


Create a Floor

1. Tap in the blank field on the floor menu and enter a name (figure 15).
2. Enter the exterior wall thickness if necessary. If left blank, the wall thickness from the project level (if entered) will be used later.
3. Select **Below Grade** if necessary (for proper area calculation).

Survey a Property

1. Ensure you will not be seen in the image and tap the **Scan** button . A 360° image and laser scan data will be captured simultaneously. The laser scan data will be automatically aligned to any previously captured data if **Auto Align** mode is enabled in Survey Settings (default is enabled). A new folder is created on the USB drive for each scan.
2. Tap the **Scan** button again to capture the next scan.
3. Tap the  and  arrows at the top to view a previous or next scan.

Two-Shot mode

1. Tap the **Two-Shot** mode button  (figures 12 & 13).
2. Stand facing the back side of the PLANIX (the side with USB drive and the power button) and tap the **Scan** button. A 360° image will be captured along with laser measurement data.

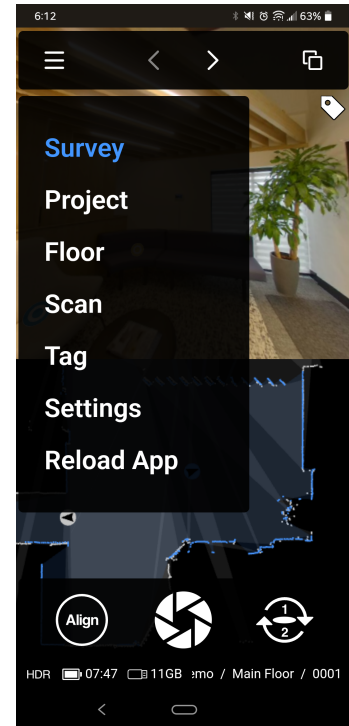


Figure 12 - Menu, Two-Shot mode off




Figure 13 - Survey, Two-Shot mode on

- Stand facing the front side of the PLANIX and tap the **Scan** button again. A second 360° image will be captured and merged with the first image, excluding the halves from both images containing you, the user.

Align data manually

- Tap the **Align** button.
- Drag one finger on the screen to move and two fingers to rotate the highlighted data.
- Tap **Snap** once the data is almost aligned to fine-tune the alignment (see figure 15).
- Once the data is aligned, tap **Save**.

Change data display modes

- Tap the **Display** button  at the top-right to enter Laser Display mode (figure 14).
- Tap the button again to enter Pano Display mode and again to return to Split Display mode (see figure 13).

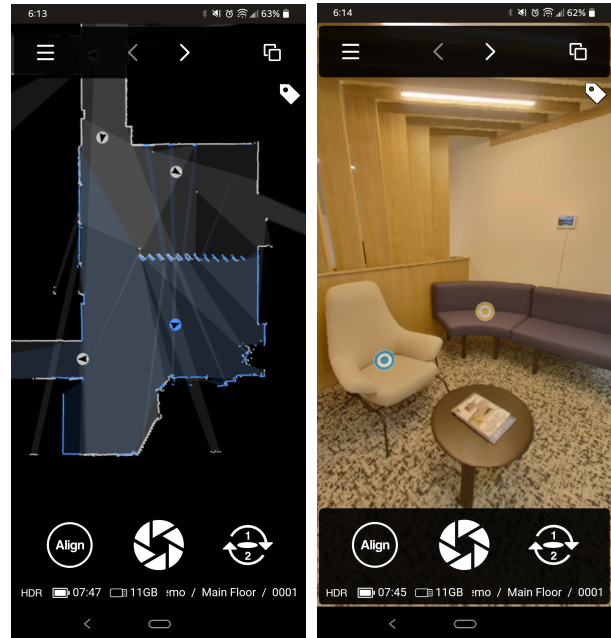


Figure 14 - Laser Display (left), Pano Display (right)

Select and Edit Scans

- Double tap a scan circle in the laser data to select the scan or use the arrows at the top of the screen.
- Tapping the current scan name displayed in the lower-right corner of the screen will open the Scan menu where the scan can be edited or deleted.
- Additionally, the Scan menu can be used to select, edit, or delete a previous scan (see figure 15).

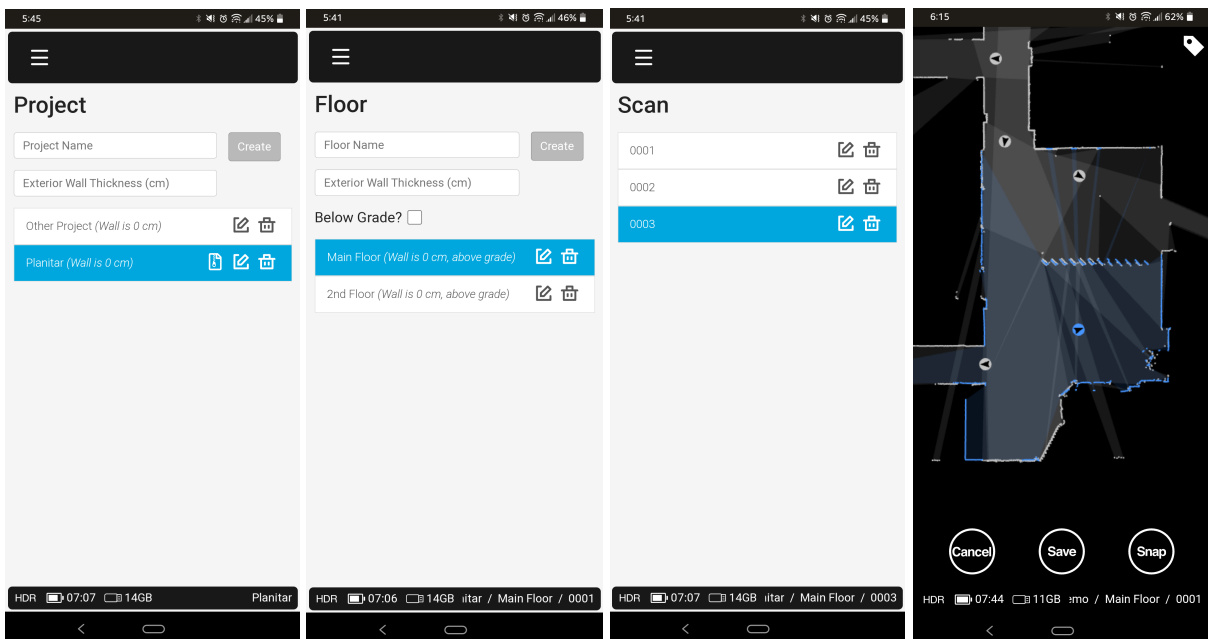


Figure 15 - (left to right) Project menu, Floor menu, Scan menu, Align mode

Status bar icons

HDR mode status: Shows whether HDR is active or inactive. Press to select an HDR mode from the Survey screen instead of visiting the Settings menu.

Battery life: Shows remaining system battery life in hours and minutes. Represents PLANIX system battery, not 360° camera.

USB drive status: If USB drive is inserted, shows available space. If not inserted, reads “NO DISK”.

Current Project / Floor / Scan: Shows the currently selected Project, Floor, and Scan. Press to use as a shortcut to the Project, Floor, or Scan menus.



Figure 16 - Status bar icons

Edit scan properties

Label: Replace the default numeral label of the scan with one suiting your preference. For example, label a bedroom scan as “Bedroom 1”.

Private Notes: Use this field to note things about the scanned area for later. For example, the scan may contain sensitive information that you intend to edit out of the pano. Private notes entered in this section only appear for you in Survey and Stitch for your personal use and are not transmitted through the stitch.tar file provided to the Drafting Team.

Hide on Portal: By similar means available using Stitch or the iGUIDE Portal, check this box to hide the pano in the final 3D Tour. Use this option

when the subject scan captures a room which has no visual appeal in the 3D Tour, but is necessary for measurement. Selecting this option in Survey is not necessarily permanent, and can be changed both in Stitch (before submitting for processing) and on the iGUIDE Portal (after the iGUIDE has been processed).

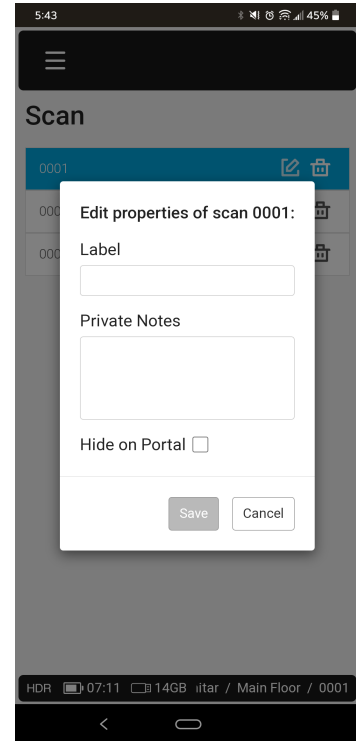


Figure 17 - Edit scan properties

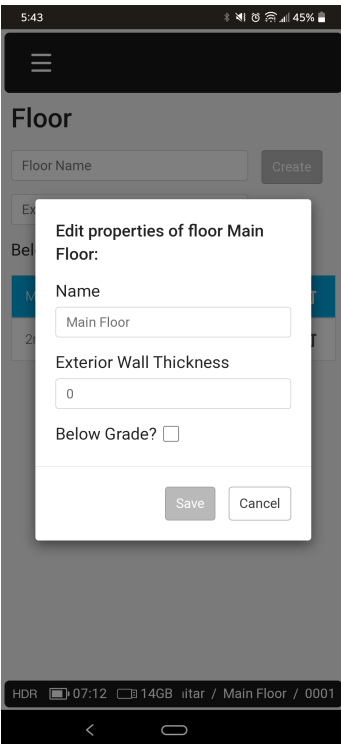


Figure 18 - Edit floor properties

Edit floor properties

Name: Enter a different name for this floor.

Exterior Wall Thickness: Enter a different wall thickness for this floor. If a wall thickness was entered for the project, wall thickness entered here replaces project wall thickness.



Below Grade?: Indicate whether the floor is entirely above or partly below grade. Refer to the currently supported measurement standards and the experts about your region/area to understand what it means for a level to be above or below grade.

Edit project properties

Name: Enter a different name for this project, typically named for the property address or business name.

Exterior Wall Thickness: Enter a different wall thickness for this property. A wall thickness for the project will be adopted by all of its floors, unless a different wall thickness is entered in floor properties.

Exporting from Survey for on-site upload

If the property you are surveying needs to be uploaded as soon as possible, or you want an iGUIDE Preview before leaving, you have the option to skip Stitch by exporting your TAR file directly from Survey. Once you are confident that your project is complete and adequately aligned (refer back to figure 11 for examples of alignment quality), go to the project menu and press the **Export** button  to begin the export process. Once the export is complete, a new option will be available for the project: **Download** . Upon pressing the **Download** button, your device will prompt you about where to store the TAR file. The TAR file will be downloaded via WiFi to the location that you select on your smart device (see figure 20).

Note: All other project data is still stored on the USB drive, only the TAR file is downloaded.

Once the download is complete, you can proceed to disconnect your smart device from the PLANIX WiFi and re-establish an internet connection in order to reach the iGUIDE Portal (manage.youriguide.com).

On the iGUIDE Portal, after signing in to an account which has permissions to create an iGUIDE (e.g. an Operator account or Operator sub-account), proceed to create an iGUIDE by filling in all the necessary information and uploading the TAR file which is saved to your smart device.

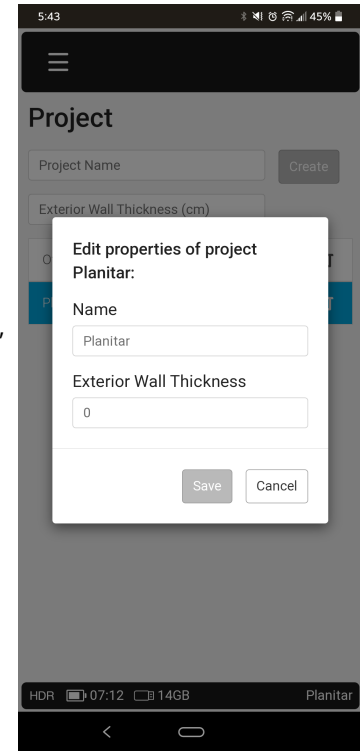


Figure 19 - Edit project properties

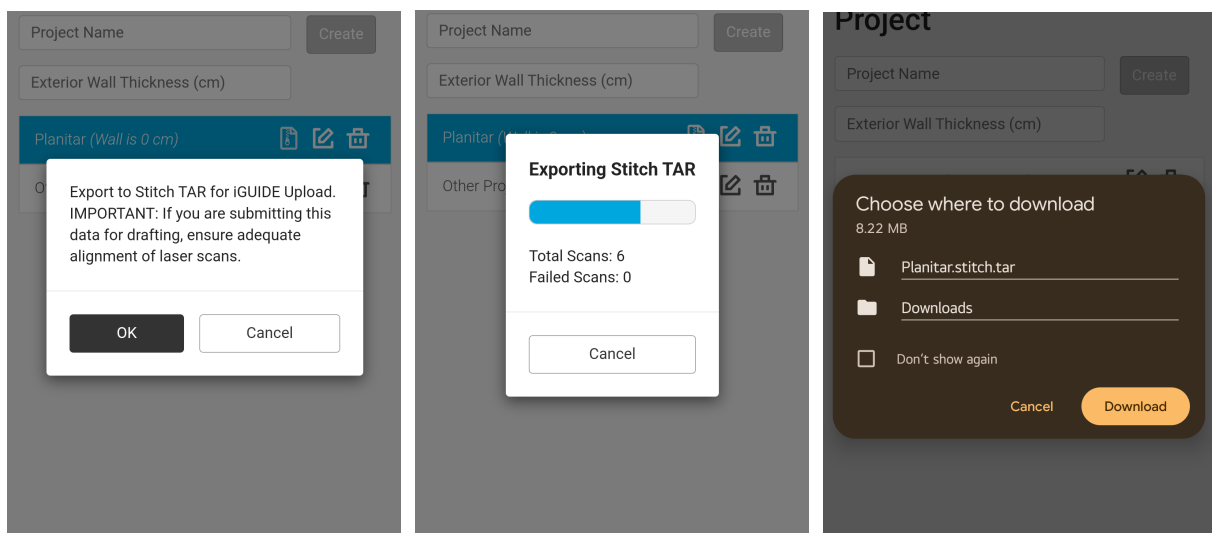




Figure 20 - (left to right) Starting the export process, Export in progress, Downloading the exported file

Real-Time Tags (iGUIDE Tags)

The Real-Time Tags feature is available as part of PLANIX firmware version 1.6.10 or later. Tags can be added to any existing project in Survey that contains one or more scans.

1. Select the scan which you want your new tag to be seen from.
2. Tap the **Tag** button  in the top-right corner of the screen (see figure 14).
3. On the tag editor screen (see figure 21), you may enter the following information and make the following selections:
 - **Title:** Enter a title for the tag ("New Tag" by default).
 - **Color:** Choose between seven colors (blue by default).
 - **Content:** Enter text in bold, italic and/or header format; insert an image from your smart device or take a new picture using your smart device's camera; switch between Edit Mode and Preview Mode.

Note: A new picture taken will only be saved to the USB drive, not your smart device.
4. Tap to select the tag's position in the pano image, then tap **Next**.
5. Drag along the red line to position the tag in the laser scan, then tap **Save**.

Tap the menu icon  and then **Tag** to visit the tag menu. Use the tag menu to browse existing tags on the currently selected floor. In this menu, you can select, edit and delete existing tags (see figure 22).

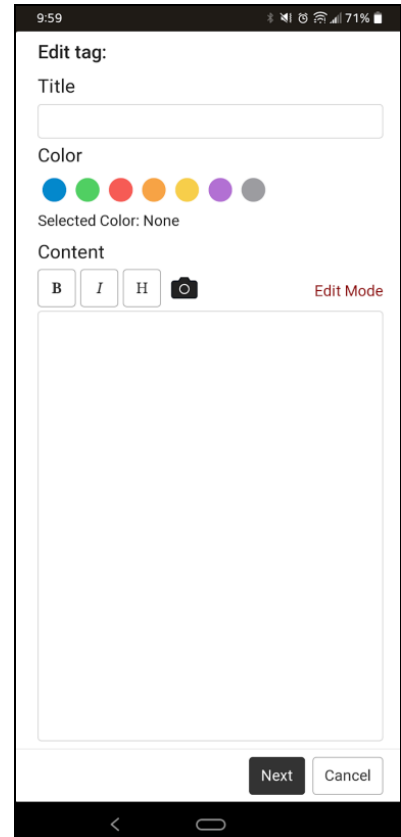


Figure 21 - Tag Editor screen

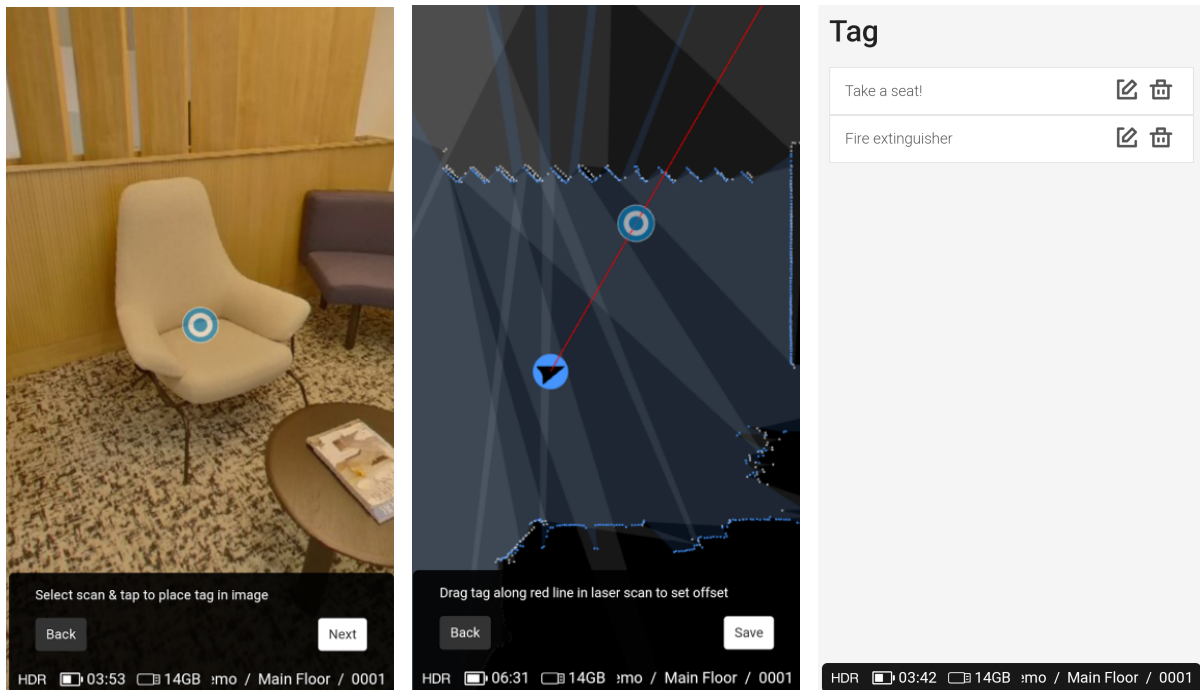


Figure 22 - (left to right) Tag position in pano, Tag position in laser scan, Tag menu

System Settings

Save Settings - (Top right) Save changes to system settings. All unsaved changes will be lost.

Auto Align - Laser measurement data will be automatically arranged following each scan. Toggle on or off.

HDR (High Dynamic Range) - Retains more details in bright and dark areas of the 360° images by merging images with different exposure settings. Choose from the following options:
External (Ricoh), -5EV/+2EV (iGUIDE), -1EV/+1EV (iGUIDE), -3EV/+3EV (iGUIDE),
Off.

Coverage Opacity - Change the opacity of measured areas when looking at the laser measurement data.

Show Live Lidar Data - Toggle the active lidar scan (shown in green color) on or off.

Quiet Mode - Mute all sounds produced by the 360° camera and the smart device. Suitable for environments where sounds may be undesirable. Toggle on or off.

360° Camera Volume - Adjust the volume of sounds produced by the 360° camera.

Units - Input units for exterior wall thickness measurements. Toggle between centimetres or inches.

WiFi Band - Toggle between 2.4GHz or 5GHz bands. The 5GHz band will usually provide better WiFi connectivity, however, in many countries the 5GHz band is to be used indoors only.

Region (selector) - Select your region to allow PLANIX to automatically choose an optimal WiFi channel which will be compliant with your local wireless regulations. Ensure you follow your local regulations regarding indoor use restrictions for the 5GHz band and do not use PLANIX outdoors where not permitted.

Access Point Name - Customize the WiFi access point name.

WiFi Password - Show or customize the WiFi password. The default password is the serial number of the system, found on the product label located on the base of the system.

Power Off Timeout - The camera will automatically power off after the specified minutes of inactivity. Enter 0 to disable timeout.

Lidar Power Saving Mode - Saves system power by turning the lidar off between scans. Toggle on or off.

Eject USB Drive - Halt all reading and writing from the USB drive for safe removal.

Power Off - Remotely power off the system.

Calibrate Compass - Calibrate the compass responsible for rotating laser measurement data and for measuring overall property orientation. On-screen instructions will guide you through a simple calibration procedure.

Align 360° Camera - Align the camera with the laser measurement data. On-screen instructions will guide you through a simple alignment procedure. This alignment must be done each time you remove and then re-attach the 360° camera and will help ensure proper alignment of visuals with floor plans in the iGUIDE 3D tour.

Format USB Drive - Erase all data stored on the USB drive and reformat the drive.

Update System File - Update camera system parameters when instructed by iGUIDE product support.

Update Firmware - Add features and improve usability. On-screen instructions will guide you through a simple update procedure.

Reset to Factory Settings - Reset all settings back to their defaults.

System Information - System Firmware Version, System Serial Number, 360° Camera Model, 360° Camera Firmware Version, and 360° Camera Serial Number.

Save System Log - Save a log of this session's system activity. A file named 'syslog.txt' is saved to the 'logs' folder on USB drive; share the logs folder when reaching out at support.youriguide.com.

Stitch

The post-processing in Stitch desktop software is explained in detail on goiguide.com/stitchtraining. Find that page by going to Resources > Technical Training > iGUIDE Training 2 - Stitch Software.

Copy data to a computer

1. Eject the USB drive from the PLANIX.
2. Insert the USB drive into a computer.
3. Copy the project folder from the USB drive on to the computer.
4. Do not process data with Stitch directly from the USB drive to avoid data corruption.

Open data in Stitch

1. Open Stitch.
2. Click the **Load project** button and select the project folder.
3. Click **Select** and wait for the project to finish loading.

Edit data

1. Align laser measurement data.
2. Adjust images (optional).
3. Add notes (optional).
4. Rearrange and rename floors and scans in the folder tree (optional).

Export data from Stitch

1. Click the **Export project** button.
2. Set the initial pano of the iGUIDE if you haven't already.
3. One or more floors may have a problem. Read the list which appears and identify which items need to be corrected or can be ignored.
4. Once all necessary items have been corrected, click **Ignore**.
5. Wait for the project to finish exporting.
6. Exit Stitch.
7. Inside the project folder, find and enter the new '_Export' folder.
8. Find the 'stitch.tar' file and upload it to the iGUIDE Portal for processing.

System Maintenance

Use the information in this section together with the information in the Handling & Care section.

USB Flash Drive

Avoid running low on free disk space as this will slow down writing new data. Keep at least 50% of the disk space free. Do not load projects into Stitch directly from the USB drive. Instead, copy all project files from the USB drive to your computer first; that way you will also have a backup.

Compass Calibration

If you frequently get Stitch warnings about compass calibration, choose Calibrate Compass under Survey Settings. You will need to rotate the camera around three approximately orthogonal axes. On-screen instructions will guide you through a simple calibration procedure. Rotation should be performed slowly and should take approximately 15-20 seconds to complete. If the data collection is not completed in 60 seconds, the procedure will time out and will need to be repeated.

Firmware Update

1. Go to goiguide.com/downloads.
2. Download the latest PLANIX firmware update file.
3. If one exists, delete the old PLANIX firmware update file from your USB flash drive.
4. Ensure the file is named exactly "fw6_update.7z" as web browsers may append additional text to filename when saving (e.g. fw6_update (1).7z).
5. Copy the new firmware file onto your USB flash drive. The file should be placed at the root of the USB drive (i.e. not in any of your project folders).
6. Safely eject the USB flash drive from the computer to avoid file corruption.
7. Insert the USB flash drive into the PLANIX and power it on. The PLANIX power supply should not be connected at this time and the battery must have at least 25% charge.
8. Navigate to Survey Settings and press the Update Firmware button.
9. Once complete, reconnect to the PLANIX and reload Survey app to begin using the new firmware.

System File Update

1. Download the latest PLANIX system file from the link provided by technical support.
2. If one exists, delete the old PLANIX system file from your USB flash drive.
3. Copy the new system file onto your USB flash drive. The file should be placed at the root of the USB drive (i.e. not in any of your project folders).
4. Safely eject the USB flash drive from the computer to avoid file corruption.
5. Insert the USB flash drive into the PLANIX and power it on.
6. Navigate to Survey Settings and press the Update System File button.
7. Once complete, reconnect to the PLANIX and reload Survey app to begin using the new system parameters.

Factory Reset

A reset button is located inside the small hole on the underside of the PLANIX, next to the charging port. It can be used to reset all user settings, including Wi-Fi password, to factory defaults. To reset, power the PLANIX on, wait until the status indicator stops blinking and use a paperclip to hold the reset button down for ~3 seconds, until the status and battery life indicators turn off, then release.

Factory reset can also be done by pressing the **Reset to Factory Settings** button in Survey **Settings**.

Notes

- Your PLANIX is integrated with a RICOH THETA Z1 360° camera; these are technically independent systems and firmware versions must be updated separately.
- You can update 360° camera firmware directly via the 360° camera mobile app without removing the camera from the PLANIX base. Ensure PLANIX is powered off, then power on the 360° camera using its own power button, connect to the 360° camera from your smart device via Wi-Fi and launch the native 360° camera app published by its manufacturer.
- Schedule monthly or quarterly firmware update reminders for all your devices in order to avoid bugs and other issues fixed in the latest firmware versions.
- If the 360° camera is physically removed, lens alignment must be performed in Survey the next time it is re-installed.
- 360° camera lens alignment ('Align 360° Camera' in Survey Settings) is not to be confused with PLANIX Pro lens calibration (done by Planitar technicians).
- PLANIX Pro lens calibration data is tied to the 360° camera serial number and is stored on PLANIX, not on the 360° camera.
- **The RICOH THETA Z1 User Guide can be found online at support.theta360.com/en/manual/z1/**

User Replaceable Accessories

The following accessories can be purchased and used in conjunction with PLANIX providing the replacement accessories are an exact model number match to the information listed below.

Accessory	Description/Model Number	Source
360° Camera	RICOH THETA Z1 / R02020	www.theta360.com
System Battery	POWERPAQ / RRC2057	www.sager.com
System Power Supply	MeanWell GE40 Industrial Adaptor / GE40I12-P1JR Interchangeable AC plug / AC-PLUG-US	www.sager.com
External USB Drive	Any Type-A USB drive	Any source

NOTE: No other user serviceable components exist on the PLANIX instrument. Any attempt to disassemble or otherwise repair the PLANIX instrument is strictly prohibited and will void the Warranty.

Usage Tips

Choosing a QR plate

It is recommended to use PLANIX with a QR (quick-release) plate and a ball head to allow for easy leveling on a tripod. Arca Swiss type QR plates with a release screw are recommended over QR plates with a release lever due to possible interference of the lever with the feet.

Where can I find my camera system's serial number?

Under the heading System Information found at the bottom of the Settings page in Survey. It can also be found on the physical product label affixed to the underside of the PLANIX body, next to the charging port (see figure 2).

When do I need to calibrate the compass?

The compass calibration procedure should be performed if consistent errors occur under a wide range of conditions and Stitch frequently warns you about compass when exporting the data. Occasional compass errors are normal and may occur when magnetic interference is present, such as due to massive steel or iron objects.

Troubleshooting 360° camera Issues

It may happen rarely that the 360° camera will get into an error state while taking an image, will display an error message on its LCD screen and will turn itself off. Survey will try to recover, but if it fails, the Shoot button in Survey will turn red. Press the power button on the 360° camera which is found on its side (not the PLANIX power button) to bring it back.

If such errors persist, turn the 360° camera off and back on using its own power button. Additionally, you can try to reset the 360° camera, while the 360° camera is turned off, by pressing its power and Wi-Fi buttons at the same time for about 10 seconds until its blue lights (both the power button and front facing) stop pulsing and remain off. The reset is successful if the 360° camera does not turn on, i.e. the LCD screen remains off.

Wireless data transfer

If you power the PLANIX on and connect to its Wi-Fi access point from your desktop computer, you can use Explorer on Windows or Finder on Mac to browse Network and look for "PLANIX" device. If a USB drive is present in the PLANIX, it will be shared on the network and you can copy data from the PLANIX wirelessly. The copy speed over Wi-Fi will be slower than when using a USB drive in a desktop computer directly.

Measuring low-height rooms

In cases where you need to measure a room with low or sloped ceilings, consider temporarily removing the PLANIX from your tripod and resting it on the floor so as to measure the room to its full extent in all directions. In cases like this, consider taking two scans: one on the tripod (for the 3D Tour), and one on the floor (for measurement).

THETA Camera Visibility Reduction

The Camera Visibility Reduction option must not be turned ON in THETA mobile app and must remain OFF, otherwise advanced measurements in the lower portion of panoramas may be negatively affected.

Specifications

Product Name

- iGUIDE PLANIX

Product Model

- IMS-6

Performance

- Measurement Range: Up to 40m
- Measurement Uncertainty: +/- 1cm up to max range*
- Laser Scanner Field of View: 360°
- 360° Camera: RICOH THETA Z1

Connectivity and System Control

- Wi-Fi: Wi-Fi 802.11 2.4GHz/5GHz Access Point
- Survey Web App: Planitar web app in a browser over Wi-Fi from any device

Electrical

- System Battery: 7.2V 6.9Ah/49.7Wh Li-Ion battery, user-replaceable
- System Power Supply Input: 100-240VAC, 50-60Hz, 1.0A; Output: 12VDC, 3.3A
- PLANIX Input Power: 12VDC, 3.3A
- System Battery Performance: 7 hours of typical operation

Mechanical

- System Unit Weight: 980g (2.16 lbs)
- System Unit Dimensions: W: 34cm (13.4") x D: 11cm (4.3") x H: 11cm (4.3")
- Shipping weight (with carrying case, without packaging): 3.6 kg (8 lbs)
- Carrying Case Dimensions: W: 39cm (15.4") x D: 29cm (11.2") x H: 17cm (6.7")
- Tripod Mounting Thread: 1/4" - 20

Environmental

- Operating Temperature Range: 0-40°C (32-104°F)
- Storage Temperature Range: -20-50°C (-4-122°F)
- Relative Humidity: 0-90%
- Maximum Altitude (operating): 4,000 m

* Typical, based on at least 60 cm wide wall segment

Warranty

Planitar warrants that, when used in accordance with the Documentation, the System shall be free from defects in materials and workmanship for one year from the date of delivery of the System to the Customer. In the event of a breach of this warranty, Customer's exclusive remedy shall be Planitar's repair or replacement of the deficient Hardware or Software or the deficient portions thereof, at Planitar's option. Customer shall, upon request of Planitar, ship Product to Planitar following all shipping instructions provided by Planitar, at the expense of Customer. Return shipping from Planitar to Customer will be at the expense of Planitar. False warranty claims are cause for billing Customer for actual cost of repair parts and labour and return shipping expenses. Planitar reserves the right to use re-engineered part(s) with performance parameters substantially equivalent to the similar new part(s) in the performance of its obligations to repair to replace System components. All replaced System components become the property of Planitar. In the event of repairs or replacement of any part(s), during the warranty period, the warranty of the System shall thereafter continue only for the unexpired period of the original warranty. USB flash drive is considered a consumable component, is provided with the System for a new user's convenience only and is excluded from this warranty.

This warranty is extended to Customer only and shall not apply in the event of: i) damage, defects or malfunctions resulting from misuse, accident, neglect, tampering, (including any alterations, additions, improvements, modification or replacement of any components supplied with the Hardware), unusual physical or electrical stress or causes other than normal and intended use; ii) failure of Customer to provide and maintain a suitable environment for the System; iii) malfunctions resulting from use not approved or recommended in the Documentation or otherwise in writing by Planitar; iv) exposure of the System to dirt, sand, water including rust inside the Hardware and fire and/or shock; v) removal, tampering with or mutilation of the model No. or serial No. sticker of the Hardware; vi) damage to the System arising out of the use of any accessories other than those supplied by Planitar; or vii) any defect that is the result of physical breakage, electric connection or electrical faults external to the System.

Contact

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