Quick Start Guide

For

MagStation Base Station Magnetometer

P/N 770-00125-01

Volume 1- Rev. A0

September 2025

GEOMETRICS
Simplify your search

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This guide is meant to be a quick reference for starting out with your MagStation. More information can be found on Geometrics Forum website.

1.0 What's in the box?

1. MagStation main body
2. MagStation holder with tripod
3. External battery cable with XT60 to alligator clips adapter
4. AC power adapter
5. USB drive with software
6. LiPo battery charger (Optional)
7. LiPo battery (Optional)

Figure 1-1 – Typical MagStation system in the box.

2.0 Battery

We recommend using a 7000 mAh 11.1V LiPo (3S) battery, which provides approximately 8 hours of battery life between charges. Note that there is NO fuse protection for the LiPo battery cable. Please make sure the cable is NOT physically damaged before plug in the battery.

For longer battery life, a standard 12V marine (car) battery can be used. Please make sure to have the 2 wires of the alligator clip close to each other to minimize the magnetic field generated by the current loop.

The absolute input voltage range is 10 – 16 V.

3.0 Powering On/Off

On - depress and release power switch.

Reset - Depress and release power switch once while the unit is on. Reset will stop data acquisition.

Off - Press and hold power button for 3 seconds. The LED's will go out once the unit is completely powered down.

4.0 Orienting the Sensor

Set up the MagStation such that its front panel faces north or south. Make sure to lock down the 3 set screws (2 of them highlighted below) after adjusting the tripod legs.

Figure 4-1 – Facing north or south guarantees the sensor will work anywhere in the world. Lock down the set screws to prevent tripod legs from splaying out.

5.0 LED Displays

The 4-light LED display indicates the status of the unit and will blink in the patterns shown below.

WIFI		GPS		Magnetometer		Recording	
	Meaning		Meaning		Meaning		Meaning
Solid Blue	Connected	Solid Yellow	Valid location + PPS phase locked	Solid Green	Both Mag Working	9/10 On 1/10 Off	Recording
Blinking (1/sec)	On – not Connected	Blinking (1/sec)	GPS received but not locked	Blinking (1/sec)	Startup	Off	Not Recording
-----	-----	Off	No Data	Blinking (10/sec)	Error in One or both Mag	10 Blinks	Error

Table 1 - LED Status Display

6.0 MagNav App

Install the MagNav App in your android tablet. The installer (.apk file) can be found in the USB drive or downloaded from Geometrics website. Connect the USB to your android device (Android 6.0 or up) and navigate to the folder where the .apk file is located. Click the file to install. The system may pop up a message saying that the device currently isn't allowed to install unknown apps from this source. Go to Settings to allow unknown app installation. For most android devices,

you should be able to do this by following the pop-up windows. If not, please go to our online Forum and search for solutions (please post your issue if no solutions are found). After installation, you will see the MagNav Icon on your tablet.

7.0 Establishing Data Communication

Swipe down to access the WiFi connection (password: last 8 digits of its serial number) and connect to the MagStation. Once the tablet is connected to the MagStation (blue LED on MagStation becomes solid), return to the tablet's home screen.

Open the MagNav app. Click "**Connect**" (or first and then "Connect") on the top right corner. If data communication is established between the MagStation and the MagNav app, a field reading will appear. Click the Mag Data tab, a reading curve will be displayed. Use two fingers to zoom in or out and double tapping for auto-zoom. You can adjust the speaker volume by clicking the setting button . Inside the setting, you can also access the system status and log file by clicking the support tool.

Please **note** that "**Connect**" or icon indicates no data communication between the instrument and the MagNav. Repeat the steps above if the data communication is lost.

8.0 Starting Data Collection

On the MagNav "Projects" page, click a project name (or **Create New Project**) to open the project and inside the Surveys page click **Create New Survey**. In the pop-up window, set up your survey parameters and click OK. The Swath Radius (in unit of meter) controls the displayed GPS route linewidth on the Navigation screen, but not applicable to MagStation. The new survey will appear on your Surveys page. Click the survey name to enter the survey data collection.

If you want to create another survey, you can use the **Back** button (little triangle) on the bottom of the screen (or on the right for some devices in landscape mode) to navigate back.

Inside a survey, click "Terminal" or "Recording" tab. Make sure both mag and GPS readings are displayed. Notice that the top and bottom margins are red. This means that the unit is not in recording mode. Click **START**, the margins become green. The recording LED on MagStation starts blinking as well.

Click **Switch to Stand-alone Mode** to close the MagNav (Some android system may still have the app running in the background. Please terminate the app in the background.). so that you can move the tablet away from the MagStation (most off-the-shelf tablets are too magnetic to be within 10m of the MagStation during data collection). Please note that the MagStation is still saving data to its internal memory (the recording LED keeps blinking).

9.0 Downloading Your Data

After completing your data collection, you will need to first download data from the MagStation to the tablet. To do this, repeat section 7.0 to establish data communication. It will automatically

take you to the data acquiring page. Wait until "**Connect**" or  icon disappears. Click **Stop** to stop data collection first and then click **Sync Data** to download data to the tablet. Now you want to copy data from the tablet to a USB drive.

To do this, first insert a flash drive into the tablet.

Navigate to the home page by clicking the back button on the bottom or on the side.

Hold on to the project you want to export until the options appear on the home page.

Click **EXPORT PROJECT** and then select the external USB drive (usually inside 3 bars).

Click **Use This Folder** on the bottom to copy the data (in dbt format) to the USB drive.

Note that the MagNav app will NOT over-write an existing dbt file. You will need to delete the existing dbt file on the USB drive before exporting.

10.0 Ejecting Your Flash Drive

It is very important for you to safely eject your flash drive. Failure to do this may result in corrupted data files! To properly eject your flash drive, swipe down from the top of the tablet's screen and select **General USB Drive** (or from the tablet **Setting**).

11.0 Exporting your Data

Survey Manager gives you 2 options for exporting your data – either as a CSV file or as a GDB file (compatible with the Geosoft processing suite).

To export, **open Survey Manager and click on MagStation**. On the screen that pops up, click on **Open Existing MagStation Project**. **Select** and **open** your dbt file.

On the project screen you will see the export options. To export your file as a CSV, click on the survey you want to export and then press **Export to CSV**. A window will open asking which records you want to export. If you find your file is smaller than expected or have fewer records than expected, then you may have lost your GPS signal or mag reading. To check, export your file and include records without locations or with invalid measurements.

12.0 Clean up micro-SD card

The data is internally stored in a 32G micro-SD card. Over time, the card will be filled up. To delete old projects, power up the MagStation, connect a tablet to it and open the MagNav. Click "Setting" button on the top right corner. Scroll down and click Support to open the support home page. Click "Delete project storage" link to delete old projects.