



MAGNET Construct
Version 5.3
Release Notes
June 10, 2022

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NOTE:

It is always recommended, before upgrading your field software, users backup their original job; and following any update to your field software, users perform in-the-field checks to ensure data integrity

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V5.3

General

The following new additions/revisions have been made to Magnet Construct V5.3

Please take time to read the release notes. They contain information about the following:

- New Features
- Improvements
- Bug Fixes

List of Tested Devices

List of Android devices that have been tested with MAGNET Construct V5.3

Device	Android Version	Screen Size	Screen Resolution
Asus Nexus 7 2013	6.01	7"	1920 x 1200
Samsung Galaxy J7 2016	8.1	5.5"	1280 x 720
Sony Xperia Compact X	8.0	4.6"	1280 x 720
Motorola Moto G (3rd gen)	6.01	5"	1280 x 720
Samsung Galaxy XCover 4	8.1	5"	1280 x 720
Samsung Galaxy Tab Active 2	8.1	8"	1280 x 800
Samsung Galaxy Tab A	7.1.1	10.1"	1920 x 1200
Samsung Galaxy S5	6.0	5.1"	1080 x 1920

Juniper Systems Cedar CT7G	6.0	7"	1280 x 800
Google Pixel 2	9.0	5"	1920 x 1080
Google Pixel 2XL	9.0	6"	2880 x 1440
ZTE Balde A520	7.0	5"	1280 x 720
Juniper Systems Cedar CT5	6.0	4.7"	720 x 1280
A5503	7.1.2	5.5"	1280 x 720
Handheld Nautiz x6	8.0	6"	1080 x 1920
Juniper Systems Cedar CT8	8.1	8"	1280 x 800
Samsung Galaxy Tab S4	8.1	10,5"	2560 x 1600
HUAWEI MediaPad M5 pro	8.0	10.8"	2560 x 1600
Samsung Galaxy A8	8.0	5.6"	2220 x 1080
Juniper Archer 3	7.1	4.3"	800 x 480
Topcon FC-6000A	9.0	7"	1280 x 800
Samsung Galaxy S8	7.0	5.8"	2960x1440
Xiaomi Mi 11	11	6.8"	1440x3200
Samsung Galaxy M12	11	6.5"	720x1600
Google Pixel 5	11	6"	1080x2340

List of iOS devices that have been tested with MAGNET Construct V5.3

Device model	Screen size	Screen resolution
iPhone 5s	4"	1136 x 640

Device model	Screen size	Screen resolution
iPhone 6s Plus	5.5"	1334 x 750
iPhone 7	4.7"	1334 x 750
iPad	9.7"	1024 x 768
iPad Mini 2	7.9"	2048 x 1536
iPod 6	4"	1136 x 640
iPhone X	5.8"	2436 x 1125
iPhone Xr	6.1"	1792 x 828
iPad Mini 5	7.9"	2048 x 1536
iPhone 12 Pro	6.1"	2532 x 1170

General Improvements

- Added support for the following Coordinate Systems and Geoids.
 - Dubai Local Transverse Mercator grid
 - PNG94 datum and PNGMG94 projection
 - Molodensky datum
 - Austrian datum and projection MGI, M28, M31 and M34
 - Fehmarn projections and geoid
 - Thailand Geoids
- Additional WMS servers added
- Added support for BeiDou B1C/B2 signals

Resolved Issues

MAGNET Construct V5.3 includes the following resolved issues

- Addressed an issue when using Setup for 3DMC in MAGNET Construct V5.2. When setting up a resection, the resulting coordinates transmitted to the machine were incorrect.
- Addressed an issue when connecting to a Sokkia GCX3 GNSS receiver. In the status screen, no satellites were shown tracking, and no data link was shown even though the receiver was tracking.
- Addressed an issue with scrolling point lists. When opening the Add Point screen through the map menu, the Codes list would not immediately populate.

V5.2

General

The following new additions/revisions have been made to Magnet Construct V5.2

Please take time to read the release notes. They contain information about the following:

- New Features
- Improvements
- Bug Fixes

List of Tested Devices

List of Android devices that have been tested with MAGNET Construct V5.2

Device	Android Version	Screen Size	Screen Resolution
Asus Nexus 7 2013	6.01	7"	1920 x 1200
Samsung Galaxy J7 2016	8.1	5.5"	1280 x 720
Sony Xperia Compact X	8.0	4.6"	1280 x 720
Motorola Moto G (3rd gen)	6.01	5"	1280 x 720
Samsung Galaxy XCover 4	8.1	5"	1280 x 720
Samsung Galaxy Tab Active 2	8.1	8"	1280 x 800
Samsung Galaxy Tab A	7.1.1	10.1"	1920 x 1200
Samsung Galaxy S5	6.0	5.1"	1080 x 1920
Juniper Systems Cedar CT7G	6.0	7"	1280 x 800

Google Pixel 2	9.0	5"	1920 x 1080
Google Pixel 2XL	9.0	6"	2880 x 1440
ZTE Balde A520	7.0	5"	1280 x 720
Juniper Systems Cedar CT5	6.0	4.7"	720 x 1280
A5503	7.1.2	5.5"	1280 x 720
Handheld Nautiz x6	8.0	6"	1080 x 1920
Juniper Systems Cedar CT8	8.1	8"	1280 x 800
Samsung Galaxy Tab S4	8.1	10,5"	2560 x 1600
HUAWEI MediaPad M5 pro	8.0	10.8"	2560 x 1600
Samsung Galaxy A8	8.0	5.6"	2220 x 1080
Juniper Archer 3	7.1	4.3"	800 x 480
Topcon FC-6000A	9.0	7"	1280 x 800
Samsung Galaxy S8	7.0	5.8"	2960x1440
Xiaomi Mi 11	11	6.8"	1440x3200
Samsung Galaxy M12	11	6.5"	720x1600
Google Pixel 5	11	6"	1080x2340

List of iOS devices that have been tested with MAGNET Construct V5.2

Device model	Screen size	Screen resolution
iPhone 5s	4"	1136 x 640

Device model	Screen size	Screen resolution
iPhone 6s Plus	5.5"	1334 x 750
iPhone 7	4.7"	1334 x 750
iPad	9.7"	1024 x 768
iPad Mini 2	7.9"	2048 x 1536
iPod 6	4"	1136 x 640
iPhone X	5.8"	2436 x 1125
iPhone Xr	6.1"	1792 x 828
iPad Mini 5	7.9"	2048 x 1536
iPhone 12 Pro	6.1"	2532 x 1170

General Improvements

- Added support for Post Process logging to the Controller and GNSS Receiver. GNSS Survey Configurations now support collecting Post Processing data with the option of storing the data to either a supported Field Controller or the internal memory of the GNSS Receiver. Options include: User Defined File Name, Logging Rate and Minimum number of SVs.
- Updated Coordinate System support, including RTCM Online Transformation.

Resolved Issues

MAGNET Construct V5.2 includes the following resolved issues

- Addressed an issue when connecting a GNSS receiver to MAGNET Construct V5.1 on a iOS device. Users we not able to connect to a GNSS receiver use BLE.

V5.1

General

The following new additions/revisions have been made to Magnet Construct V5.1

Please take time to read the release notes. They contain information about the following:

- New Features
- Improvements
- Bug Fixes

List of Tested Devices

List of Android devices that have been tested with MAGNET Construct V5.1

Device	Android Version	Screen Size	Screen Resolution
Asus Nexus 7 2013	6.01	7"	1920 x 1200
Samsung Galaxy J7 2016	8.1	5.5"	1280 x 720
Sony Xperia Compact X	8.0	4.6"	1280 x 720
Motorola Moto G (3rd gen)	6.01	5"	1280 x 720
Samsung Galaxy XCover 4	8.1	5"	1280 x 720
Samsung Galaxy Tab Active 2	8.1	8"	1280 x 800
Samsung Galaxy Tab A	7.1.1	10.1"	1920 x 1200
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Samsung Galaxy Tab S4	8.1	10,5"	2560 x 1600
HUAWEI MediaPad M5 pro	8.0	10.8"	2560 x 1600
Samsung Galaxy A8	8.0	5.6"	2220 x 1080
Juniper Archer 3	7.1	4.3"	800 x 480
Topcon FC-6000A	9.0	7"	1280 x 800
Samsung Galaxy S8	7.0	5.8"	2960x1440
Xiaomi Mi 11	11	6.8"	1440x3200
Samsung Galaxy M12	11	6.5"	720x1600
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List of iOS devices that have been tested with MAGNET Construct V5.1

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Device model	Screen size	Screen resolution
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iPhone 7	4.7"	1334 x 750
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iPhone Xr	6.1"	1792 x 828
iPhone Xs	5.8"	2436 x 1125
iPhone 12 Pro	6.1"	2532 x 1170

General Improvements

- Added support for the RC Handle Trigger. Added a checkbox to use the RC Handle that allows users to set the option as Measure or Measure And Store.
- Added the option to export job data to the Belgian Cadaster format. The export option allows users to select either a *.txt or *.csv format for the file.
- Added the ability to Edit Raw Data. This feature allows the bulk editing of Raw GNSS and Total Station data. Multiple attributes in Edit Raw Data are supported for both GNSS and Total Station data.
- Improved WMS support by adding an Info dialog that allows users to check supported projections.
- 'Setup 3DMC'
 - Added this option to the Benchmark feature
 - Added support for 'Setup 3DMC' for the LN-150
- Added the option in Map Properties to turn off the Grid Lines in the map view.

- Improved the user interface for Mock Location Driver setup. This feature will allow third party applications to use the GNSS position from MAGNET Construct.
- Updated the map settings screen to add a Codes on/off option.
- Updated the Landscape mode for MAGNET Construct to fill the entire display.
- Added support for Correct Base. This option allows users to perform a correction of the existing Base coordinates or to assign new coordinates for the Base to correct an imprecise setup.
- Improved the Background map support to allow users the options to clear the map cache.
- Improved layer sorting to add a lock/unlock status setting as a sort option.
- Improved PDF support in MAGNET Construct to allow the user the option to scale the PDF on import.
- Improved DWG and DXF background file support to allow users the option to snap to the center of an arc or circle
- Added 'Max Sat' setting to the GNSS Base receiver settings screen
- Improved the Satellite List to show a check mark only after a satellite is used in the solution.
- Improved Backsight setup to allow users the option to set the Backsight Circle.
- Improved the layout 'bullseye' and general visibility of the bullseye.
- Added support for TILT in MAGNET Construct. The settings for TILT include Enable/Disable, Maximum angle correction and, TILT calibration settings.
- Improved file support on Android devices to allow users access to external USB and SD Cards.
- Added the option in Stake > Surface to allow users to create an as-staked surface when staking from the main map.
- Added 'Average Total Station Measurements' to the settings menu.
- Improved the Calculate summary screen. The summary screen now has a check mark to confirm the results and close the screen.
- Improved Hybrid Localization. The search button now has 'Search and Track' as the

initial default setting. Once the Hybrid Localization is created, the settings will change to Hybrid Search.

Resolved Issues

MAGNET Construct V5.1 includes the following resolved issues

- Addressed an issue when opening previous version jobs. At times, the job would not upgrade and open in the new version.
- Addressed an issue when downloading a projection or geoid to MAGNET Construct. On some android devices, the file(s) would not download.
- Addressed an issue when downloading and importing a *.csv file to a job. The import dialog would not show the *.csv file(s), only *.txt files were shown.
- Addressed an issue with RTCM 1021-1027 when using TopNET Live Russia. At times, the coordinates would show with an incorrect offset.
- Addressed an issue when connecting to a Sokkia iX500. the joystick control wouldn't work since the turning speed was set to the iX1000.
- Addressed an issue when connecting to the HiperHR using MAGNET Construct on an iOS device. FW 5.4 must first be installed on the GNSS receiver before the user can connect.

V5

General

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List of Tested Devices

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Sony Xperia Compact X	8.0	4.6"	1280 x 720
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List of iOS devices that have been tested with MAGNET Construct V5

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iPhone 7	4.7"	1334 x 750
iPad	9.7"	1024 x 768

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iPod 6	4"	1136 x 640
iPhone X	5.8"	2436 x 1125
iPhone Xr	6.1"	1792 x 828
iPhone Xs	5.8"	2436 x 1125
iPhone 12 Pro	6.1"	2532 x 1170

General Improvements

- Added 'Calculate Point in Direction' to the list of COGO features.
- Added Auto Topo to MAGNET Construct. Users can set the Auto Topo configuration to collect data: by time, Horizontal Distance, Slope Distance or, Elevation.
- Added the option in Topo and Auto Topo to change the 'Average' setting from the settings icon. In previous versions, users had to first disconnect from the instrument to change the setting from the instrument configuration wizard.
- Added Lock Layer as an option under Layer controls. Users can now keep a layer visible on the map screen, but inactive so you cannot select objects on the layer. In addition, under the layer controls, version 5 adds the option to sort the layers by locked/unlocked status.
- Added Cut-Fill Surface volume Report to Surfaces. When staking a surface and creating a cut/fill surface, when the user exits the routine, the Volume is calculated and a report is generated.
- improved surface support to display the created cut/fill or ground surface details when exiting Stake Surface.
- Improved COGO calculations to show the results on the map. The COGO results will now show the calculations results as well as the map screen.
- Improved the Map display settings to allow users the option to turn the display of Point Codes on/off.

- Improved Quick Codes so you can now tap on the code to reorder the Quick Code list. The Quick Code dialog now has a sort button. When enabled, the codes can be reordered.
- Improved Edit Points to allow users to store data by columns.
- Added support to use MAGNET Construct in Landscape mode.

Total Station Support

- Improved setup options to allow users to specify the backsight circle on setup.
- Added Setup for 3DMC as an option in Resection.
- Updated EDM settings to support Precise settings. In previous versions, the default EDM mode was Tracking.
- Added support for Direct/Reverse measurements.
- Improved Simulator mode so when in Hybrid Mode, 'Set Simulator here' is applied to both GNSS and TS simulators

GNSS Receiver Support

- Added the option to use LongLink to connect to Optical Instruments.
- Improved Configuration settings to allow users to use LongLink to Configure and start the base through the GNSS Rover.
- Added support for GNSS Receiver File manager to allow users the option to manage post process data file storage on the GNSS receiver.
- Improved GNSS support to include the options to show the Satellite List and Skyplot. The Satellite List allows users to filter by Satellite Systems as well as disable individual satellites. The Skyplot option is now available under Status > Satellites Tab and is a graphical representation of all satellites in view.
- GNSS management improvements include the following features:
 - OAF Loading
 - Receiver Restart
 - Receiver Power Off
 - Reset Receiver Settings
 - Reset to Factory Defaults

- Firmware Upload
- Alarms

Coordinate System:

- Added support for new Custom datums.
- Improved datum and project support. In the 'Available projections' dialog MAGNET Construct will now prompt users to download missed projections.

Import/Export

- Improved export of DWG files to allow users to set the text font height in the drawing.
- Added Import from PDF as a supported file format.
- Added PDF as a option when exporting Deviation Reports.
- Improved Import and Export Surfaces to support: tn3, tp3, dwg, MaXML, LandXML Files.
- Improved the Import of SHP files to allow users to select multiple files for import. Previous versions only allowed users to import only one file at a time.
- Updated MaXML support to version 1.5

Resolved Issues

MAGNET Construct V5 includes the following resolved issues

- Addressed an issue when importing Quick Code groups. The Quick Codes group(s) would not import when users imported Codes.
- Addressed an issue with the ASUS ZenFone5 device. MAGNET Construct configurations and instrument selection were not available.
- Addressed an issue when connecting to a Sokkia iX500. The joystick turning speed was not set correctly and users were unable to use the joystick to turn the instrument.
- Addressed an issue with the HiperHR GNSS Receiver and MAGNET Construct on an iPhone. At times, the HiperHR was not discoverable by the application.

