



RELEASE NOTES

TRIMBLE[®] ACCESS[™] SOFTWARE

Version 2015.10
Revision A
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Legal Information

Trimble Navigation Limited
Engineering Construction Group
935 Stewart Drive
Sunnyvale, California 94085
U.S.A.
www.trimble.com

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Trimble Access Software Version 2015.10

These Release Notes contain information about the Trimble® Access™ software version 2015.10.

The Trimble Access software provides a collection of survey tools for use in the field, and web-based services for the office and in the field. These applications may be installed on the controller, the office computer, or on servers hosted by Trimble, depending on the parts you have purchased.

Installing the software and licenses on the controller

Operating system installation

With a new Trimble Tablet, the operating system is not installed. Turn on the Tablet to install the Windows® operating system and then apply Windows updates.

With all other new controllers, the operating system is already installed.

Software and license installation

Before you use your controller, you must install the applications and licenses using the Trimble Installation Manager. If you have:

- Never installed the Trimble Installation Manager, go to www.trimble.com/installationmanager for installation information.
- Previously installed the Trimble Installation Manager, you do not need to reinstall it because it updates itself automatically. Select *Start / All Programs / Trimble Installation Manager* to start the Trimble Installation Manager.

For more information, click *Help* in the Trimble Installation Manager.

For Trimble CU controllers, Trimble Access version 2013.00 and later can be installed only on the Trimble CU model 3 (S/N 950xxxxx). Trimble CU models 1 and 2 have insufficient memory to run later versions of Trimble Access.

Am I entitled to this version?

To install and run Trimble Access software version 2015.10, you must have a warranty agreement valid up to 1 April 2015.

When you upgrade to version 2015.10 using the Trimble Installation Manager, a new license file is downloaded to your device.

Updating office software

When you upgrade to version 2015.10, you must also update your office software. These updates are required if you need to import your General Survey jobs into Trimble office software such as Trimble Business Center.

When you upgrade the controller using the Trimble Installation Manager, the office software on the computer that has the Trimble Installation Manager installed is also upgraded. To upgrade other computers that were not used to update the controller, do one of the following:

- Install the Trimble Installation Manager onto each computer and then run Office updates.
- Run the Trimble Update Office Software packages for the Trimble Access software from www.trimble.com/support_trl.aspx?Nav=Collection-84862.
- Use the Trimble Data Transfer utility:
 - You must have version 1.51 or later installed. You can install the Data Transfer utility from www.trimble.com/datatransfer.shtml.
 - If you have version 1.51, you do not need to update to a later version of the Data Transfer utility; you can run one of the Trimble Update Office Software packages from www.trimble.com/support_trl.aspx?Nav=Collection-84862.
- If you only need to update the latest version of the Trimble Business Center software, you do not need to run the Trimble Installation Manager to update the office software. The required converters are now available on the controllers running the Trimble Access software and, if required, they are copied from the controller to the computer by the Trimble Business Center software.

Trimble Solution Improvement Program

The Trimble Solution Improvement Program collects information about how you use Trimble programs and about some of the problems you may encounter. Trimble uses this information to improve the products and features you use most often, to help you to solve problems, and to better meet your needs. Participation in the program is strictly voluntary.

If you participate, a software program is installed on your computer. Every time that you connect your controller to this computer using ActiveSync® technology or the Windows Mobile® Device Center, the Trimble Access software generates a log file that is automatically sent to the Trimble server. The file includes data on what the Trimble equipment is being used for, what software functions are popular in specific geographical regions, and how often problems occur in Trimble products that Trimble can correct.

At any time, you can uninstall the Trimble Solution Improvement Program. If you no longer wish to participate in the Trimble Solution Improvement Program go to *Add or Remove programs* on your computer and remove the software.

Documentation

Trimble Access Help is "context-sensitive." To access the Help, tap ? at the top of the screen.

A list of Help topics appears, with the relevant topic highlighted. To open the topic, tap its title.

Go to <http://apps.trimbleaccess.com/help> to download a PDF file of the Help. A separate PDF file is provided for each application.

Trimble Access

New hardware supported

Trimble S5/S7/S9 total station

Trimble Access version 2015.10 supports the new line of Trimble total stations.

Trimble R8s receiver

Trimble Access version 2015.10 supports the Trimble R8s receiver.

Geo7X laser rangefinder module support

Trimble Access version 2015.10 now supports the laser rangefinder module for the Trimble Geo7X handheld.

To use a Geo7X with Trimble Access version 2015.10, the Geo7X operating system must be version 6.7.16.64960 or later. To upgrade the operating system, go to www.trimble.com/Survey/Trimble-Geo-7x.aspx and then click Support.

General Survey

New features

Scanning enhancements

Trimble Access version 2015.10 combines and enhances the best of the scan functions that was available for a Trimble VX series and an S series instrument to provide model based scanning that allows you to define your scan area on a horizontal, vertical or inclined plane. The new scan functions are for any total station that has VISION technology.

Scan points can now be viewed in the Map on any controller running the General Survey software. Previously, they could be viewed only on the Trimble Tablet. To view scan points in the map, select *Scan file points* from the map *Filter* option.

Surface scanning is still available for total stations that do not have VISION technology.

Trimble VISION enhancements for the S5/S7/S9

Trimble Access version 2015.10 provides improved brightness and white balance settings as well as scene modes to enhance the visibility of images and the *Video* screen. In addition, support for HDR imaging enables you to capture more detail in scenes where you have a wide range of contrast.

For more information, refer to the topics "Camera options" and "Panorama" in the [General Survey Help](#).

Annotate images captured using a Trimble VISION total station

You can now add an information panel to the bottom of images captured using an instrument with Trimble VISION™ technology. Use the *Video Options* screen to select the information fields to include in the information panel, including point name, code and time stamp information.

The *Annotate snapshot* option is available only if the *Snapshot on measure* option is enabled.

For more information, refer to the topic "Annotating a snapshot" in the [General Survey Help](#).

Draw on images

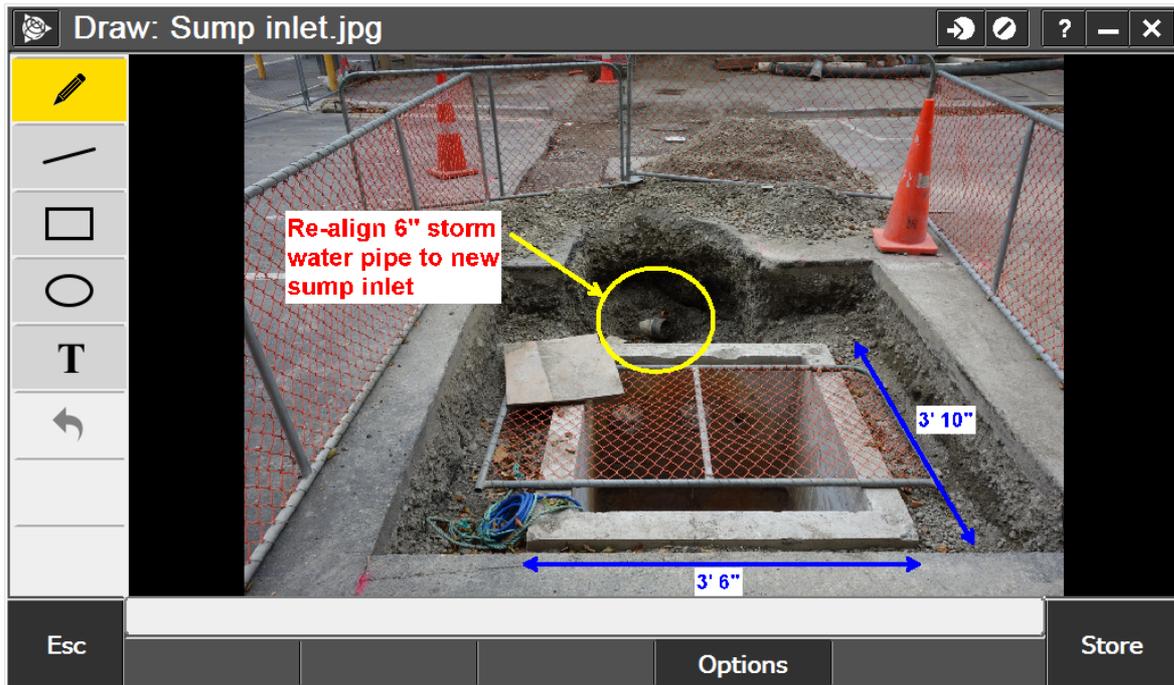
You can now draw on images to highlight issues and add comments. Use the *Draw* toolbar to add freehand line work, lines, rectangles, ellipses and text to an image.

The *Draw* toolbar is available when viewing an image in:

- *Jobs / Review job*
- the *Video* screen after capturing the image using the *Snapshot* option

HDR images or images captured using a Trimble V10 imaging rover cannot be drawn on.

For more information, refer to the topic "Drawing on an image" in the [General Survey Help](#).



Tilt and eBubble support for the Trimble Active Track 360 target

The Trimble Active Track 360 (AT360) target combined with Trimble Access now supports the eBubble and enables recording of the tilt information. The eBubble enables you to make sure the target is level when measuring points in a conventional survey. Recording the tilt distance with every observation record provides useful information about the quality of the position and proof that the rod was plumb when the measurement was recorded.

To use the eBubble in the AT360, the controller must be connected to the target using Bluetooth. When the active target is connected to the controller:

- An eBubble is available. Use the eBubble to check that the target is level. The tilt angle and tilt distance for each point measurement is recorded.
- Changing the *Target ID* in the software automatically updates the target ID setting on the active target, and vice versa.

For more information, refer to the topic "Target tracking" in the [General Survey Help](#).

Trimble Slate controller conventional survey support

The Trimble Slate controller now supports connecting to an instrument for a conventional or integrated survey, if you have the Trimble Access - General Survey Lite to Full Upgrade license (P/N TA-OPT-ADVUPG).

xFill-RTX technology

Trimble xFill-RTX technology now bridges communication outages with the correction source indefinitely. Precision degradation over time stops at the level of the ongoing RTX solution. This enables you to work seamlessly as you move between areas of radio coverage.

To obtain this level of xFill performance, you must be using a Trimble R10 GNSS receiver and have purchased access to the Trimble Centerpoint RTX service.

The *xFill-RTX ready* field in the *Rover data link* screen shows when the receiver is able to extend xFill beyond 5 minutes.

For more information, refer to the topic "Rover options" in the [General Survey Help](#).

QZSS and BeiDou GNSS constellations in RTX surveys

Using the QZSS and BeiDou GNSS constellations is now supported in RTX surveys. Select the check boxes in the *Survey Style / Rover Options* screen if the RTX satellite beam you use contains information for those constellations, or if you use RTX over Internet.

Output NMEA messages in a GNSS survey

You can now output NMEA-0183 format messages from a port on the connected GNSS receiver or from the USB-Serial port of the Geo7X/GeoXR controller. Configure the message types to output in the *NMEA outputs* screen of your GNSS survey style. Supported messages formats are: GGA, GGK, GLL, GNS, GSA, GST, GSV, LLQ, PJK, RMC, VTG, ZDA.

For more information, refer to the topic "NMEA outputs" in the [General Survey Help](#).

RTCM v3.2 MSM

The transmission of RTCM v3.2 MSM messages from a base station with Trimble receiver firmware 5.00 or later is now supported. This enables the use of modernized GPS signals, and BeiDou, QZSS, and Galileo satellites in RTCM RTK surveys. Trimble rover receivers must also use firmware 5.00 or later.

Set bandwidth limit for external radios

If you are connected to an external radio, you can now set the bandwidth limit in the *Base data link* screen to limit the amount of data sent to the radio from the base.

The GNSS base receiver uses this value to logically reduce the number of satellite messages so that the maximum rate is not exceeded. This option is available for CMR+, CMRx, and RTCM v3.x broadcast formats.

This setting is not required for internal radios, as the amount of data sent to the radio is controlled automatically.

Specify a point name range for a job

You can now specify a point name range for a job. This is useful when you have multiple survey crews working on the same project and you want to avoid duplicate point issues when the jobs are processed into one job in the office.

To do this, go to *Jobs / Properties of job* and specify a minimum and maximum point range in the *Additional settings* screen. The point names must be numeric. Numbers that include decimal points or alphabetic characters are ignored.

Define project location for ground coordinate systems from a point in the job

When setting up a ground coordinate system for a job, you can now tap the Position softkey to use the coordinates of a position in the job to define the Project location fields.

The Point softkey is not available until there are positions in the job. When creating a new job, you must create the job, then link files to the job or measure a new point, and then return to the Job properties and edit the coordinate system settings. The Point softkey is now available.

Control codes for rectangles and circles

Three new feature code control codes are available.

Use	To
Start rectangle	Define a rectangle by measuring: <ul style="list-style-type: none">• Two points and a width value• Three points where the third point defines the width
Start circle (center)	Define a circle by measuring: <ul style="list-style-type: none">• One point defining the center and a radius value• Two points where the first point defines the center and a second point on the edge of the circle defines the radius
Start circle (edge)	Define a circle by measuring three points where each point is on the edge of the circle.

Exporting smooth curves to DXF files

When you export to a DXF file, the DXF file now includes any smooth curves that are in the job. Previously, smooth curves were excluded from the DXF file.

Enhancements

Panorama menu item for Trimble total stations with VISION technology

The *Panorama* measurement method is now available from the *Measure* menu. Select this menu option when using a Trimble total station with VISION technology to capture a panorama image without performing a scan.

Video on VISION instruments now supported with Bluetooth connections

The General Survey software now supports video display from an instrument that has Trimble VISION technology when the instrument is connected to the controller using Bluetooth wireless technology.

Rescaled brightness values for the camera for Trimble total stations with VISION technology

The *Brightness* values in the *Camera options* popup screen now range from -5 to +5, with 0 as the default setting. Previously the values were 1 to 10.

Crosshair improvements

The video crosshair has been redesigned for improved visibility against dark backgrounds.

When there is no distance returned from the instrument, the software now does not draw the inner crosshair in the *Video* screen. Previously, there was no visual indication that the crosshair offset calculation was based on the last measured distance.

AT360 manual mode

Manual mode can be used if the battery in the AT360 needs charging and you do not have a replacement battery available. Manual mode replaces the Passive mode that was available with an AT360 in earlier versions of Trimble Access.

Improved eBubble management when more than one tilt sensor is connected

Version 2015.10 supports three tilt sensors. The eBubble shown in the software depends on the mode you are using and the action you are performing. If:

- Only one tilt sensor is connected then the eBubble always shows information for that sensor.
- The R10 and the AT360 are connected (when performing integrated surveying) then when in GNSS mode the eBubble shows information for the R10 and when in conventional mode the eBubble shows information for the AT360.
- The R10 or the AT360 is connected as well as the V10, then the eBubble always shows information for the R10 or the AT360 except in the *V10 Panorama* screen, when the eBubble shows information for the V10.

Tap *Instrument / eBubble options* to view the *eBubble options* screen for the connected tilt sensor. When connected to more than one tilt sensor, tap the appropriate device softkey to view each *eBubble options* screen. Changing the eBubble settings for one sensor changes the eBubble settings for all connected tilt sensors.

eBubble softkey for V10 and AT360

An *eBubble* softkey is now available in the *Measure point* screen when you are connected to either a V10 or AT360 and a receiver that does not support tilt measurement. Use the eBubble softkey to turn on and turn off display of the V10 or AT360 eBubble.

Copied RTX-RTK offsets

If the job contains an *RTX-RTK offset* copied from another job:

- The *RTX-RTK offset* menu item is now always available in the *Measure* screen. This change allows you to delete the offset, if required.
Previously, the *RTX-RTK offset* menu item was available only if the job contained the original RTK and/or RTX points as well as the offset.
- The *RTX-RTK offset* record shows the name of the original job next to the point name of the RTX point, RTK point and Base point.

Previously, the values for the copied points was shown as null.

Warnings before RTX subscription expires

A warning message now appears when an RTX subscription expires or is about to expire during an RTX survey.

Warnings before R10 sensor calibrations expire

A warning message now appears when the tilt calibration of the R10 receiver will expire within two days. Tap *Ignore* to dismiss the message and prevent further warnings appearing.

When you start a survey, the software warns if the calibration for the R10 tilt sensors or the magnetometer has expired.

Configuring a network connection to use the Trimble Tablet internal modem

You can now use GNSS contacts in the Trimble Access software to configure a network connection using the internal modem on a second generation Trimble Tablet. Previously, you could configure this type of connection only by using the settings provided by the Trimble Tablet operating system.

To configure the connection, from the main Trimble Access menu tap *Settings / Connect / GNSS contacts*. For more information, refer to the topic "Connecting to the Internet" in the [General Survey Help](#).

Auxiliary GPS receiver

The way you interact with an auxiliary GPS receiver has changed. An auxiliary GPS receiver refers to the internal GPS receiver on the TSC3, Trimble Tablet and Trimble Slate controller, a Trimble GPS/GNSS card or a generic GNSS receiver. In previous versions of the software, using this receiver was controlled from the *Instruments / Target controls / GPS search* option. In version 2015.10, a new *Auxiliary GPS* option has been added to the *Settings / Connect* menu, enabling you to select the auxiliary GPS receiver for functions other than GPS search, such as navigating in the map.

You can choose from:

- None
- Internal GPS
- Trimble GNSS card
- Custom

When using Bluetooth wireless technology to connect the controller to a *Custom* auxiliary GNSS receiver, from the Trimble Access menu, tap *Settings / Connect / Bluetooth* and then select the receiver in the *Connect to auxiliary GPS* field. Previously, the connection was made by selecting the device in the *Connect to GPS rover* field.

When you select the receiver type in GPS search, you must select Trimble GNSS or Auxiliary GPS. The settings for the auxiliary GPS receiver can be accessed directly from the *GPS search* screen via the *Aux* softkey. Alternatively you can select the receiver from the *Settings / Connect menu*.

NTRIP source table FKP mountpoint filtering

Source table filtering for FKP (RTCM) surveys now display mountpoints with formats containing "FKP", in addition to "SAPOS" and "ADV".

Antenna type setting

If you are connected to a modular Trimble GNSS receiver and a survey is not running, you can now change the antenna type in the *GNSS antenna* screen.

RTCM coordinate system

If you have an RTCM coordinate system selected in the job and then select a survey style that does not provide RTCM coordinate system information via the data link, a warning message now appears.

Using attributes of base codes

You can now configure the attributes of base code from the *Jobs / Properties of job / Additional settings* screen. Previously this could only be configured from the *Measure codes Options* screen.

The use attributes of base code setting allows you to have a code such as "Fence" configured with attributes, and then use codes Fence1, Fence 2, and so on that use the attributes of the base code "Fence".

DXF entity names now include layer name

In a DXF file the entity name is now the first 8 characters of the layer name followed by a space and then the line number of the entity in the DXF file. This makes it easier to correctly identify a given selected entity in the map. Previously the entity name was the DXF file name followed by the line number.

Stakeout relative to a DTM

When staking an alignment with a horizontal construction offset, the reported cut/fill value relative to the DTM is now at the position selected for stakeout. Previously the cut/fill value was always to the DTM at your current position.

Compute distance now available from the Cogo menu

You can now access the *Compute distance* function from the *Cogo* menu. Previously, the *Compute distance* function was accessed from the *Cogo / Calculator* screen.

Compute distances or azimuths from specified points in linked files

You can compute the distance between two points in a distance field or compute an azimuth from two points in an *Azimuth* field by entering the names of points in the job or in any linked files. Previously, this function only supported points in the job.

To do this, enter the point names in the distance field or *Azimuth* field, separated by a hyphen. For example, to compute the distance between points 2 and 3, enter "2-3".

This method works with most alphanumeric point names, but it does not support point names that already contain a hyphen.

Bisected corner calculations now include distances

When performing a *Compute azimuth by Bisected corner* Cogo computation, the distances between the three points defining the corner is now reported in addition to the computed azimuth and angle.

Coordinate system database updates

- Changes to Greek coordinate system definitions
 - TM07 and TM87 definitions updated
 - New HEPOS_GGRS87 datum and Greece87.sgf shift grid added and applied to the new HEPOS_GGRS87/TM87 zone definition.
- Duplicated the 'ITRF to NAD 1983 (2011)' datum to be also available as 'NAD 1983 (2011)'.
- New Norway geoid model referenced by the Norway coordinate system zones.
- New geoid model referenced by the Czech Republic and Slovakia Krovak coordinate system zones.

Resolved issues

- **Map:** The following issues are now resolved for the map:
 - The lines drawn for smooth curves did not always pass through control points.
 - The color of arc, lines, and alignment labels did not reflect the *Label color* setting in the map *Options* screen.
- **3D map:** The following issues are now resolved for the 3D map:
 - Scan points disappeared from the map when measuring a new point.
 - The position crosshair did not update when performing a continuous topo survey.
 - A raster background image did not move to the correct position on the map if you changed the coordinate system for the job.
 - Point selection is now more reliable.
 - The icon indicating your current position was not taking into account the antenna height. This was a display issue only and was apparent in the 3D map only when the map was rotated. All numeric values were correct.
 - Improved the performance of the 3D map when working with jobs that contain a large number of points and where some DXF files were taking a long time to load.
- **Exporting null attribute values:** An issue where attributes with null values were being exported as a question mark character is now resolved. Attributes with null values still appear as "?" in Trimble Access but are now exported with no content (blank).
- **Feature library control codes:** An issue where the *Control code action* field was being set to *Unknown action* for a feature and attribute library (.fal) is now resolved. This was an issue for control codes in an existing library or a newly added control code.
- **Measuring codes:** An issue where the on-screen keyboard appeared by default when using the *Code* button to enter multiple codes is now resolved. This issue affected Trimble Tablet, GeoXR, Geo7X, and Trimble Slate controllers only.
- **Photo attributes:** An issue where photo attributes were automatically filled out with the names of image files previously used is now resolved.

- **Measuring codes with photo attributes:** An issue where a point with a code that included a photo attribute could take up to a minute to store is now resolved. This was an issue only if you used a name other than the default name for the photo or, when capturing the image, you configured the camera settings so that you could review the photo before closing the camera application.
- **Keying in notes:** An issue when attaching notes to the next point measured where previously used note text would be added in addition to the text in the new note is now resolved.
- **Projection shift grid:** An issue where the error message warning that the projection shift grid file could not be found on the controller did not provide the name of the missing file is now resolved.
- **Stake out DTM:** An issue where setting the *As-staked code* field in the *Options* form to 'Last code used' did not work for keyed in codes is now resolved.
- **Stake out alignment:** An issue where the *Stakeout* screen is not orientated properly to the reference azimuth when starting stakeout in plan view is now resolved.
- **Trimble Access menu on Trimble Slate:** An issue where the order of items in the Trimble Access menu was rearranged is now resolved. This issue affected only Trimble Slate controllers and was introduced in Trimble Access version 2014.10.
- **Reset counter:** An issue when measuring an observed control point with auto store point and excess tilt warning enabled where the counters were not reset if you discarded the point is now resolved.
- **Excess movement warning:** An issue where the "Excess movement" warning appeared in the status line after you had measured a GNSS point is now resolved. The warning would appear when you were filling out attributes for the point.
- **Excess tilt warning:** An issue where the *Excess tilt* dialog appeared after you stored the observation when measuring a compensated point with tilt auto-measure enabled is now resolved.
- **Compensated points:** The following issues are now resolved
 - An "Excess movement" message sometimes incorrectly appeared when starting a compensated point measurement.
 - An "Excess movement" message now appears if the tilt exceeds 4 cm from the initial position.
- **R10 eBubble:** An issue where the eBubble sensitivity was not correctly scaled to the screen resolution of the Trimble Tablet is now resolved. This was a display issue only.
- **GNSS check points:** An issue where deltas were not being stored with GNSS check points is now resolved.
- **Continuous offsets:** An issue where null coordinates were stored when using continuous offsets is now resolved.
- **xFill:** An issue where xFill was not enabled in RTCM surveys that immediately followed CMR surveys in which xFill had been disabled is now resolved.

- **xFill in network RTK surveys:** Changes have been made to improve transition to xFill mode when the base station data connection closes unexpectedly. Tap *Continue* in the popup dialog to continue the survey in xFill mode.
- **Laser height:** An issue where, after modifying the laser height in the *Review Job* screen, the elevation was not adjusted for affected laser points until you reopened the job is now resolved.
- **Attributes screen:** An issue where the *Attributes* screen did not close properly when you discarded an attribute when measuring a point during a GNSS survey is now resolved.
- **Data link options:** An issue where the *Receiver internal modem* option incorrectly appeared in the *Base data link options* screen when you were configuring a dial-up data link is now resolved. The *Receiver internal modem* option is still available in the *Rover data link options* screen.
- **GSM network connection:** An issue where dialing a circuit-switched data call on a 3G GSM network would fail at the first attempt is now resolved.
- **SIM card on Tablet:** An issue where Trimble Access failed to warn if no SIM card was inserted when you started an Internet connection on a Trimble Tablet is now resolved.
- **New Base Detected:** When a new base is detected in a network RTK survey (for example when the network has shifted the virtual reference station (VRS) closer to the rover), and the physical reference station (PRS) the rover is closest to is the same as the one in use before the new base was detected, the correct base antenna height for the PRS is now written in the job file after the new base detection and switching process has completed.
- **Distance offset settings:** When measuring a topo point in a conventional survey, an issue where some options were duplicated in the *Distance offset* pullout menu is now resolved.
- **Distance in TRK:** An issue where the observation values were sometimes flashing when the instrument was in TRK mode is now resolved.
- **Measure points on a plane:** An issue that allowed null positions to be stored for points observed on a plane is now resolved. Previously, if the *View before storage* option was disabled, the observed angles to the defined plane were not being updated, which could lead to null positions being stored.
- **Empty point name for Resection:** An issue where entering the name of a point that has no coordinates in the *Resection* screen caused the *Measure point* screen to appear but the point name field was empty is now resolved.
- **TSC3 connection to M1 or M3:** An issue where the connection from a TSC3 to an M1 or M3 instrument was sometimes dropped during station setup is now resolved.
- **Exported MT1000 height values:** Fixed minor discrepancy in the heights of points displayed in Trimble Business Center that were computed from measurements with an MT1000 in semi-active mode.
- **Integrated survey:** The following issues are resolved when running an integrated survey:
 - The point name and code were not being copied across from Resection (Conventional) to Measure Point (GNSS) when measuring on an unknown backsight/foresight point in Resection.
 - The auto-measure GNSS option was not working properly.

- The *Station elevation* option is now available in the *Survey* menu. This option was missing in Trimble Access versions 2014.xx.
- **V10 eBubble:** An issue where the eBubble for the V10 imaging rover sometimes did not refresh after disconnecting and then reconnecting the V10 is now resolved.
- **V10 photo folder:** An issue where the name of the automatically created photo folder was incorrect if a special character was used in the name of the job or subfolder in the Trimble Data/[user name] folder is now resolved. If the job contained V10 data, this issue meant that importing the data in Trimble Business Center did not work as expected and the images were imported as media files rather than connected to the photo stations.
- **Trimble V10 antenna heights with R series postprocessed surveys:** When using a Trimble R8s, R8, R6 or an R4 with data logging enabled for post-processing, in conjunction with a V10, the antenna height in the T02 file will now be reduced to APC height.
- **Connection to instrument lost when taking a V10 panorama:** An issue where the connection to a conventional instrument is lost when capturing a panorama using the V10 is now resolved.
- **Help:** An issue where help topics and the help index were hidden behind some screens in the Trimble Access software is now resolved.
- **Application errors:** You should no longer see occasional application errors when you do any of the following:
 - Link a georeferenced image to the map.
 - Measure a calibration point that uses a linked DXF point as the grid point name.
 - Repeatedly view and exit the *Measure codes* screen.
 - Store a second F1 measurement to a backsight instead of the F2 measurement when performing an auto F1/F2 station setup.

Pipelines

New features

Adding photos to the tally or measured pipeline points

You can now take a photo and seamlessly add the image name to the tally file. Images can be captured using the TSC3 or Tablet camera, or using a supported SDHC-compatible digital camera and an Eye-Fi card.

For more information, refer to the topic "Adding photos to the tally or measured pipeline points" in the [Pipelines Help](#).

Create tally file and check entered values against pipeline manifest file

You can now create a tally file and have the Pipelines software compare each new tally item entered to a matching entry in a pipe manufacturer's manifest. This feature allows you to collect tally attributes without bias, and have them quickly and easily checked against the manifest, enabling immediate detection of data errors in either the tally or the pipeline manifest. When you enter values in the tally file, the software stores them immediately if they match, but warns if the new tally

values differ from the manifest. If you accept the values entered in the tally file, a note recording the differences is added to the job file.

Configure this option in the *Jobs / Pipeline options* screen.

Compute pipeline cover from the pipe alignment

You can now compute the pipeline cover from the measured point to a ground elevation interpolated from the vertical alignment of the pipeline. For example, define the pipeline alignment by keying in alignment points measured at grade changes along the route. The elevation of the points defines the vertical alignment.

To use the vertical alignment of the pipeline to compute the pipeline cover, select the *Use pipe alignment* method in the *Pipe cover* group when configuring the pipeline options.

Compute pipeline cover settings now in the Pipeline options screen

When defining compute pipeline cover settings, you can now set the default ground point options in the *Jobs / Pipeline options* screen. Previously these options were available only when measuring a pipeline point.

Enhancements

Enhancements to the Joint mapping screen to improve workflow

To improve workflow, the following changes have been made to the Joint mapping screen:

- The *Joint behind ID* and *Joint ahead ID* fields have been swapped so that the *Joint behind ID* field is now on the left and *Joint ahead ID* field is now on the right.
- The downstream/upstream direction arrows have been swapped so that the downstream arrow faces left and the upstream arrow faces right.
- A new *Swap* softkey enables the *Joint behind ID* and *Joint ahead ID* values to be swapped. This provides a convenient way of swapping joint IDs when a section of welded pipe that was joint mapped in one direction is turned around when connected in to the main pipe.
- The *Prev* and *Next* softkeys are now always present and take you to the next or previous joint map record used in the pipeline. The order of the joint map records is determined by the IDs entered in the *Joint behind ID* and *Joint ahead ID* fields. Previously, the joint map records were presented in the order they were collected.

Automatic recording of distance to corridor boundaries

When measuring pipeline points with a corridor defined, the distances from the measured point to the left and right boundaries of the corridor are now recorded in the job. Select *Review job* or *Point manager* to see the values.

Maximum pipeline to ground point distance

When computing pipe cover relative to a ground point you can now specify a *Maximum pipeline to ground point distance*. During the as-built pipeline survey, the software warns if the distance from the measured position to the ground point exceeds the specified value, but you can continue to store the point. A note record is added to the job recording the distance to the ground point.

Distance computed between points independent of code used

When measuring as-built pipeline points, the software computes the distance between the just measured point and a previously measured point where the joint ahead or joint behind attribute references the same joint ID. In this version of Pipelines, the two points can use different codes, for example Weld and Loose end. Previously, the code for the two points had to match for the distance to be computed.

Automatic saving of the tally and joint map file

To simplify the operation of creating or checking a tally or joint map, the Pipelines software now automatically updates the files as you make changes.

Message warns when the tally file has been replaced on the controller

When multiple survey crews are updating the tally or joint map files, the files are merged in the office and new master tally files are distributed to the field crews. If the tally or joint map update functions are open in the Pipelines software when the tally or joint map files are updated, the software now detects the tally file originally loaded is different to the files now on disk. You are prompted to exit to the main Pipelines menu and then reopen the *Tally* screen to use the new merged tally files.

Message warns if newly selected feature library does not contain linked attributes

if you select a different feature library for a job that already has attributes stored in it, the software checks that the newly selected feature library contains the required linked attributes and warns that you may no longer be able to edit those attributes.

Improved editing of pipeline attributes in Review job

The *Jobs / Review job* screen now provides full access to pipeline attributes, enabling you to review and, if required, edit the pipeline attributes including adding a photo to the point. Any edits made are now reflected in the pipeline data record for the measured point and in the joint map file, if appropriate. Previously, only limited editing capability of the pipeline attributes was provided and any changes were not reflected in the pipeline data record for the measured point or in the joint map file.

Improved presentation of pipeline-specific details in Review job

The layout of the pipeline cover details and position values in *Jobs / Review job* is now improved to provide better readability.

The cover, position and corridor distance values are now displayed with their units. Previously these values were in meters.

Checking for duplicate column names in tally file

When you select the tally file, the software now checks to make sure that there are no duplicate column names in the tally file.

Delete softkey removed from Create Tally and Check Tally screens

You can no longer delete a joint record from a tally file. Managing joints deleted from the tally using the tally file merger utility is technically very difficult, so it was safer to remove the ability to delete

tally records in the field, and leave this process to be managed in the office when necessary.

Resolved issues

- **Exclusion zone display:** An issue where the exclusion zone was always displayed on the map if the corridor limits were defined by a polygon file that was also set to display on the map is now resolved. The display of the exclusion zone on the map is now controlled separately from the corridor display settings.
- **Incorrect fields displayed:** An issue when checking the tally where some fields were incorrectly displayed is now resolved. This was an issue only if the tally file included values that contained single or double quotes, or you entered a value that included single or double quotes when checking the tally. In some cases this could lead to an application error when measuring pipeline points.
- **Application errors:** You should no longer see occasional application errors when you do any of the following:
 - Measure pipeline points using a linked CSV file that included a code that matched the code used for the measured point.

Roads

New features

Additional method for adding a side slope to a LandXML road

When the last point in each cross section represents a side slope hinge position, a new *Add side slope to last point in cross section* option enables you to add cut and fill side slope values, including a cut ditch, to this point. A side slope can be defined for both the left and right sides of the cross-section.

Enhancements

- When surveying a road, the graphical selection screen no longer re-orientates to match the orientation of the survey screen.
- When staking an alignment with a horizontal construction offset, the reported cut/fill value relative to the DTM is now at the position selected for stakeout. Previously the cut/fill value was always to the DTM at your current position.
- When reviewing an alignment that includes a vertical alignment the elevation is now displayed. Previously the elevation value was always displayed as null (?).

Resolved issues

- **Precise elevation:** The following issues are now resolved when surveying a road using an *Integrated* survey style with *Precise elevation* selected and measuring relative to a string or a station on a string:

- The stake delta values are now stored in the job. Previously, when reviewing the job, the values were null (?).
- The coordinates from the GNSS measurement for the combined staked point record are now stored in the job. Previously when, reviewing the job or viewing the points in the Point manager they were null (?).

These issues were a problem for Trimble Access version 2014.20 only.

- **South azimuths:** The following issues are now resolved when surveying a road with the *South azimuth* option selected:
 - When the *Cogo settings / Grid coords* option is set to *Increase South-West* and the *South azimuth* and *Compass* options are selected, the stakeout screen remains orientated correctly. Previously it was flipped 180° though this was a display issue only and the road could still be staked correctly.
 - When the *Cogo settings / Grid coords* option is set to *Increase North-East* and the *South azimuth* and *Compass* options are selected, the selection screen remains orientated correctly. Previously it was flipped 180°.
 - When the *Cogo settings / Grid coords* option is set to *Increase North-East* and the *South azimuth* option is selected, the selected string or station on string and the target at the stakeout screen now coincide. Previously they did not, though as you navigated towards the target they merged and the correct position was staked.
 - When the *Cogo settings / South azimuth* option is selected the azimuth values in the rxl file are now in terms of the recorded coordinates in the file.
- **3D Review:** An issue where the blue circle indicating the currently selected position was not shown is now resolved. This was only an issue after you had accessed 3D drive through.
- **Application errors:** You should no longer see occasional application errors when you do any of the following:
 - When reviewing a GENIO road that includes two strings, and you select a position on one of the strings.

Tunnels

Enhancements

Improved workflow when manually measuring points

When measuring and storing a point, the point measured no longer remains selected after it has been stored. Instead the software displays the *Store* softkey and is ready to measure the next point. In previous versions of the software, the point was selected after storage and the software was in edit mode.

Resolved issues

- **Manual measure:** An issue where the Station, Overbreak/Underbreak and Delta station values showed as null when surveying a tunnel using the *Manual measure* option is now resolved.

Trimble Installation Manager

New features

Software name change

The Trimble Access Installation Manager is now the Trimble Installation Manager, to better reflect that more products can be installed using this software.

Update devices using a Trimble Tablet

You can now connect devices to a Trimble Tablet and then run Trimble Installation Manager to update the connected device. Previously, you had to connect controllers to a desktop computer to update them.

To update a Trimble Tablet, disconnect all devices from the Trimble Tablet before you start Trimble Installation Manager.

Trimble R8s receiver support

Connect a Trimble R8s receiver to a desktop computer or Tablet and then use Trimble Installation Manager to:

- Update firmware, options, and radio settings for the connected receiver.
- View warranty details and device properties in the *Support information* tab.
- View more options available for the connected R8s receiver in the *Upgrade options* tab. To purchase any of these options, contact your Trimble distributor.

User interface enhancements

- The Trimble Installation Manager window now includes a Refresh button  which performs a new check for updates for the connected device.
- The tabs in the Trimble Installation Manager have been renamed to better reflect the tasks that users perform in the tab.
- The **Release Notes** button is now dynamic and the destination reflects the currently selected product. Click **Release Notes** to open your Internet browser and go to the website where the current and previous versions of release notes for the selected product are available.
- The installation status of components shown in the *Install updates* tab is now indicated as follows:
 -  indicates that there are mandatory components that must be installed.
 -  indicates that there are newer versions available which can be installed, or that the component is optional and is not installed.
 -  indicates that the latest version is installed, including any optional or mandatory components.

-  appears during installation and indicates that the latest version is now installed.
- Text highlighted in **red** indicates that the component was not installed correctly.
- (X.Y MB) indicates the download size of the component. An empty download size means there are no newer versions of the component available.

For more information, refer to the *Trimble Installation Manager Help*.

Using Trimble Installation Manager offline

The offline version of Trimble Installation Manager now enables you to update the R8s receiver as well as controllers running Trimble Access software.

Use the offline version of Trimble Installation Manager to download a copy of the Trimble Installation Manager and then install application files and licenses to your device at a later date, when you may not have an Internet connection. To download the files, go to www.trimble.com/installationmanager.

AccessSync

Enhancements

Alert if the FSOXML file contains an error

If you are using a File Synchronization Options XML (FSOXML) file on the controller to control the way duplicate files are managed, AccessSync now provides an alert if the FSOXML file contains formatting errors that prevent AccessSync from applying the options in the file.

GNSS Forecast

Resolved issues

- An issue where an application error occurred if the regional settings were set to a region that uses a comma as a decimal separator (such as France) is now resolved.

Software and Hardware Requirements

Trimble Access software version 2015.10 communicates best with the software and hardware products shown below. The software can also communicate with any version later than that shown.

Trimble software	Version
Trimble Business Center (32-bit)	2.99
Trimble Business Center (64-bit)	3.50

Trimble receiver	Version
Trimble R10	5.00
Trimble R8s	4.94
Trimble R8-4, R8-3	5.00
Trimble R6-4, R6-3	4.93
Trimble R4-3, R4-2	4.93
Trimble R7	5.00
Trimble R5	4.93
Trimble NetR9 Geospatial	5.00
Trimble Geo7X	4.95
Trimble GeoXR	4.55
Trimble R8-2, R6-2, R4-1	4.64
5800	4.64
5700 II	4.64

Trimble Instrument	Version
Trimble V10 imaging rover	E1.0.67
Trimble VX Spatial Station	R12.5.44
Trimble S8 total station	R12.5.44
Trimble S6 total station	R12.5.44
Trimble S3 total station	M2.2.18
Trimble M3 total station	1.30 2.10

For the latest software and firmware versions, see also <http://trl.trimble.com/dscgi/ds.py/Get/File-93082/Survey%20Software%20and%20Firmware.pdf>.

Controller operating system support

Trimble TSC3 controllers with Microsoft Windows Mobile Version 6.5 Professional can run Trimble Access software version 1.8.0 to version 2011.10.

Trimble TSC3 controllers with Microsoft Windows Mobile Embedded Handheld 6.5 must have Trimble Access version 2012.00 or later.