

Products TS30, TM30, TPS1200, GPS1200, RX1250

From System 1200 Product Management

Date 5th June 2010



DVD ROM Leica SmartWorx DVD (Art. No. 755806)

Version SmartWorx v8.00

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These Release Notes contain important information about the new SmartWorx v8.00 software that can be loaded onto all models of TS30, TM30, TPS1200, GPS1200 and RX1250 instruments.

This firmware is protected and can only be loaded onto instruments with valid firmware (software) Maintenance date.

| Software | Version | Maintenance Date |
|-----------|---------|------------------|
| SmartWorx | 8.00 | 23 October 2009 |

If the Maintenance End date of the used instrument is on/after the 23 October 2009, then this firmware can be loaded.

If the Maintenance End date is no longer valid, then please contact your local Leica Representative to learn about Customer Care Packages (CCPs) that include software maintenance so that you can benefit from the latest software improvements.



To check Maintenance End date please start your sensor and access the **STATUS/System Information** panel. On the **Firmware** page the Maintenance End date, is displayed. The new Firmware can be loaded if the date shown is the 23rd October 2009 or later.

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Please do take your time to read these Release Notes!

These Release Notes contain information about the new functionality within the firmware, new loadable application programs and improvements to existing loadable application programs.

For information about how to obtain and load the firmware and loadable applications please refer to “System1200 SmartWorx upload instructions.doc” on the DVD.

For a summary of all the latest individual firmware components please refer to “System1200 SmartWorx v8.00 summary of latest firmware components.doc” on the DVD.

General Firmware Improvements for TPS instruments

Improvements on measurement performance and system stability

SmartWorx Version 8.00 for System1200 version contains two major improvements with regards to the measurement performance and the overall system stability. For this reason we strongly recommend to upgrade all System1200 TPS instruments to SmartWorx Version 8.00. In order to easily facilitate this general upgrade recommendation the maintenance date is remained on 23.October 2009 for SmartWorx Version 8.00.

The first improvement relates to the amount of successful ATR measurements, for instance in permanent measurement installations. In some reported cases the ATR measurement process was randomly not executed although the prism was visible in the telescope and ATR field of view. In the Telescope firmware 4.91, which is part of the SmartWorx Version 8.00 package, a improved sensor communication robustness results in an increased number of successful measurements.

In a second improvement the system stability and database robustness of TPS1200+ and TS30 / TM30 instruments has been significantly improved. By this measure the likelihood of system shutdowns will be reduced.

Target View

The Target View functionality, which until now was restricted to TM30 Monitoring Sensors in combination with Leica GeoMoS Monitoring Software, is now accessible through the user interface and available on all System1200 total stations equipped with ATR. Target View narrows the field of view of the ATR to the area of interest. If there are multiple prisms close together the measurement process is enhanced by detecting the correct prisms without interference from surrounding prisms.

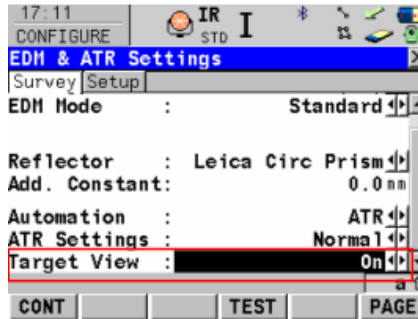
The TargetView functionality can be activated in the Cofiguration for EDM & ATR settings' panel if the Automation “ATR” is selected.

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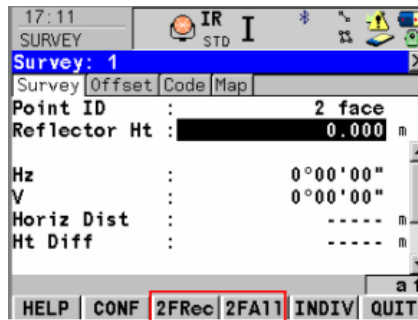
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In order to increase the functionality of Target View no ATR search is started if Target View is active. This means that in order to start a successful ATR measurement with Target View activated the prism to be measured has to be visible in the central third of the telescope view. Otherwise, if the prism is outside the central third of the telescope view, an error message is displayed and the positioning of the crosshairs has to be repeated.

2-Face function

The existing 2-Face function available in the Survey application has been extended for additional surveying tasks. From Version 8.00 onwards the 2-Face function as well supports angle only measurements (on Shift F3 < 2FRec>). In addition a consistent user guidance has been added for all 2-Face measurements, be it in manually aimed measurements to any surfaces or prisms or in automatically aimed measurements with ATR.



General Firmware Improvements in applications

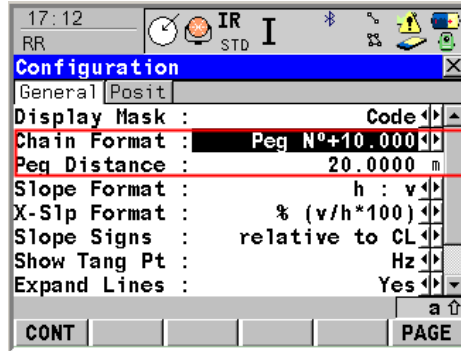
Road Runner application

A new **chainage format** which is Peg orientated and mainly used in South America has been added to the **Project Configuration**.

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In this format, a peg distance is used to calculate a peg number and determine what additional value is shown next to it.

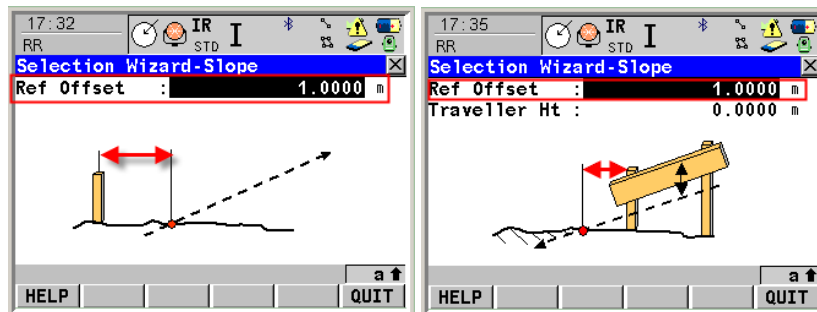
For example, at chainage of 100 m and a peg distance of 20 m, the peg number equals 5 ($100/20 = 5$).

Chainage 100 m = 5 + 0.000 Chainage 110 m = 5 + 10.000

Chainage -100 m = -5 - 0.000 Chainage -90 m = -4 - 10.000

Road

When staking out a slope a **reference offset** to the catch point can be applied for example for reference point or reference batter. The defined reference offset is now also stored in the dbx and can be exported to a log file.



Rail

Current design cant values are now displayed and stored in dbx with positive or negative signs, not any more only as absolute values.

Tunnel

Profile Viewer

Use the new **Profile Viewer** in our Scan Profile Toolbox after scanning tunnel profiles to see your over or under break.

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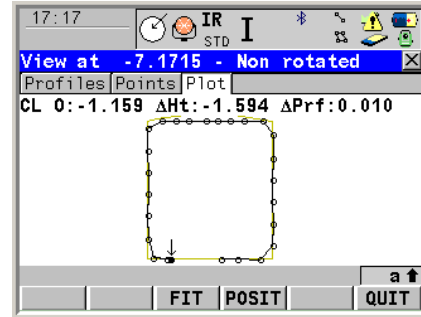
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17:16 IR STD I

View at -7.1715 - Non rotated

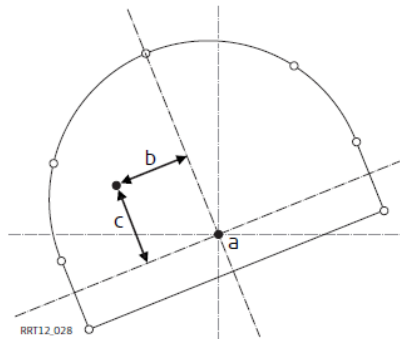
| Point ID | CL Off | Prof Off |
|----------|---------|----------|
| TPS0106 | -1.1589 | 0.0101 |
| TPS0105 | -1.3623 | 0.0105 |
| TPS0104 | -1.9734 | 0.0375 |
| TPS0103 | -2.2103 | 0.0497 |
| TPS0102 | -2.2146 | 0.0454 |
| TPS0101 | -2.1991 | 0.0609 |
| TPS0100 | -2.2023 | 0.0577 |

HOME END POSIT QUIT



The Profile Viewer makes it easy to view and analyse all measured points for each profile.

New Info page items for **Centreline Offset** and **Height Difference** are now also calculated to the **rotated profile**.



- a) Centre line
- b) Rotated centre line offset
- c) Rotated centre line height difference

Sets of Angles application

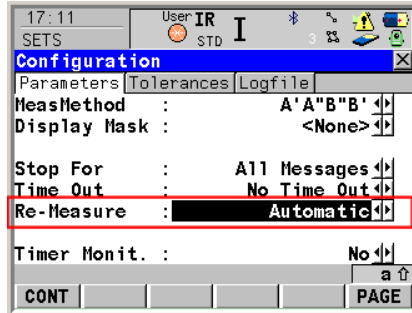
In the configuration of the Sets of Angles application a Re-Measure parameter has been added. This settings defines the further progress of the application in case target points cannot be measured (e.g. due to obstruction of the line of sight). For selection "Automatic" the failed measurement is repeated two times including an automatic change to a measurement mode with extended ATR range capabilities. For selection "Manual" the automatic workflow in case of a obstruction is halted until a user interaction decides to continue the automatic workflow.

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The new target view function as well as the ATR mode settings (Low Vis & Short Range mode) are now remembered and stored as a target setting for all subsequent sets.

In addition for all points measured in the Sets of Angles application an average triplet (AVG) is created. This triplet contains the averaged coordinates of the target point measured in the multiple sets.

General Firmware Improvements for GNSS instruments

New ME firmware 4.005 and 3.019

New measurement engine firmware version 3.019 and version 4.005 are included within the version 8.00 firmware release.

The version 4.005 firmware provides a number of satellite tracking performance improvements to SmartTrack+.

Incorrect information contained within the GLONASS almanac could occasionally cause tracking issues for measurement engine firmware v3.016 and above. The 3.019 firmware version provides a fix for this issue.

General Firmware Improvements for GRX1200

New ME firmware 4.005 and 3.019

See above for description of improvements made in the new ME firmware versions.

Please note that the new ME 4.005 firmware must be loaded onto the receiver separately.

Added 60d and 90d auto delete intervals

Version 8.0 provides new auto delete intervals that allow deleting logged data after 60 days or 90 days.

Meteo sensor model and type in RINEX

The RINEX m (meteo) file now includes the model/type of the used meteo device.

Changed the ring buffer file split times

For long ring buffer lengths (e.g. 30days), the file split times (file lengths) have been changed (e.g. from 84h to 24h) to allow easier handling of the files.

Improvement in FTP

If FTP push is configured and the used FTP push server sends a long reply

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server connection handling

message once connected, the GRX1200 receiver could not push the data to the FTP server. This issue is solved in Version 8.00.

Real time output

Latency times for generation of real time data and corrections has been improved

Decommissioned satellites

Improved handling of decommissioned satellites within the navigation files

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