

Products TPS1200, GPS1200, RX1250

From System 1200 Product Management

Date 17<sup>th</sup> July, 2008

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

Version SmartWorx v6.00

Download <http://downloads.leica-geosystems.com/downloads/index.htm>



These Release Notes contain important information about the new SmartWorx v6.00 software that can be loaded onto all models of TPS1200, GPS1200 (including GRX1200) 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 | 6.00    | 10 July 2008     |

If the Maintenance End date of the used instrument is on/after the 10 July 2008, 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If the Maintenance End date is no longer valid, then please contact your local Leica Representative to learn about Customer Care Packages (CCPs) that include software maintenance so that you can benefit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 10<sup>th</sup> July 2008 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 v6.00 summary of latest firmware components.doc” on the DVD.

## SUMMARY OF NEW FEATURES AND IMPROVED APPLICATIONS

### New Measurement Engine (ME) Firmware For All GNSS Instruments

With SmartWorx v6.00 comes a new Measurement Engine Firmware v3.015 that includes improvements in GLONASS L2 tracking.

- For all GX1200 and GRX1200 instruments this is automatically uploaded when SmartWorx v6.00 is loaded.
- For ATX1230/ATX1230 GG instruments this needs to be uploaded manually using a GEV173 cable between the RX1250 and the ATX1230.

Please be aware that after upload of the new ME firmware that it can take a few minutes to track satellites for the first time.

### SmartWorx

#### Improvements for both TPS and GNSS instruments

#### General SmartWorx Improvements

**Field to Office** – A new powerful tool for transferring files between the Field and the Office via FTP

**Point Filter Settings** – Improved handling of Point Filter Settings

**Devices** – New Japanese IFX-300L radio supported as default device

#### Improvements to loadable applications

**LandXML Export** – New purchasable application to export a LandXML file

**Reference Line** – Improved to support Stake to Polyline

**DXF Import** – a DXF file can be imported as millimetres

**DXF Export** – improved to allow exporting of Layers in a DXF file

**RoadRunner** – Several Improvements to Road, Rail and Tunnel

**Alignment Tool Kit** – Several Improvements

#### SmartWorx changes specific to GNSS

**RTCM v3.1 Coordinate System** – Support of RTCM 3.1 Coordinate System messages

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## instruments

**GAGAN** – Support of SBAS service GAGAN for India

**Google Earth** – Sample Format Files for exporting jobs to KML format for import into GoogleEarth

## SmartWorx changes specific to TPS instruments

**Telescope Accessories** – Motorisation restrictions when Telescope Accessories are being used (for TPS1200+)

## GRX, GRXPro

**RTCM** – Support of RTCM3 Navigation Messages 1019/1020

**RINEX** – Support of RINEX Marker Name and Number

**DynDNS** – Automatic WAN IP update to DynDNS Service

**System RAM** – Transfer System RAM to CF-Card

**Position** – New Get Current Position

## IMPORTANT NOTES RELATING TO THE USE OF SMARTWORX v6.00 SOFTWARE (ALL SYSTEM1200 INSTRUMENTS)

### Loadable Application Programs

Even if no improvements have been made to application programs it is still required that the new v6.00 application programs must be loaded to the instrument after loading the new SmartWorx v6.00 software.

Previous application program versions will not work with the new SmartWorx v6.00 software.

## Using an RX1250 with a TPS1200 instrument

### Using an RX1250 with a TPS1200 instrument and storing data to the RX1250

If it is required to use an RX1250 with a TPS1200 instrument and store data to the RX1250 then it is necessary to have SmartWorx v6.00 software also running on the TPS1200 instrument. It is not possible to use an RX1250 and store points to the RX1250 with a TPS1200 instrument with earlier onboard software versions.

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## DETAILS OF IMPROVEMENTS

### Field to Office (TPS and GNSS)

Field to Office is a new powerful feature that allows remote transfer of objects and files to and from the instrument (field) to the office via the internet, and vice versa, using the common File Transfer Protocol (FTP).

Field data can be immediately sent from the field to the office for rework.

Gone are the days where a surveyor has to return to the office when an office file is left behind. With this tool all relevant data required for the job can be made available on an FTP site for the surveyor to download at anytime.

Note: The tool is designed to transfer jobs, code lists, format files, coordinate system etc, between the field and office. It is not designed to backup the entire CF card. Be aware there could be limitations due to the Internet connection e.g. GPRS.

### How to use Field to Office

To use the new SmartWorx Field to Office tool, it is required that the instrument is connected to the Internet (e.g. configure the system to access the Internet via GPRS).

| Interface       | Port     | Device              |
|-----------------|----------|---------------------|
| NMEA Out 1      | -        | -                   |
| NMEA Out 2      | -        | -                   |
| Export Job      | -        | -                   |
| Hidden Pt       | -        | -                   |
| Tilt            | -        | -                   |
| Meteo           | -        | -                   |
| <b>Internet</b> | <b>1</b> | <b>Siemens MC75</b> |
| ASCII Remote    | -        | -                   |

The file transfer is done between the CF-card and an FTP server. Therefore, a CF-card is required to be in the instrument and an FTP server must be setup.

Field to Office can be found in the **Tools Menu**.

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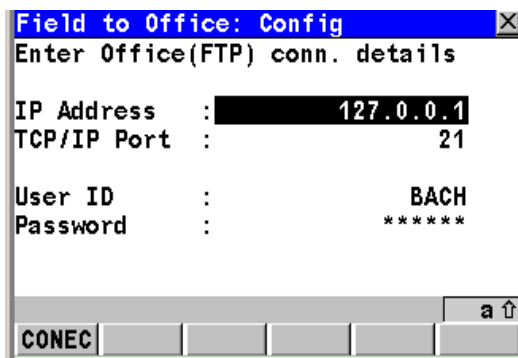
### How to connect to the Office (FTP Server)

Field to Office requires access parameters and authentication parameters to enable a successful connection to the FTP server.

These parameters are:

- The IP address of the FTP Server
- TCP/IP port of the FTP Server
- User ID
- User Password

Note: Field to Office also supports anonymous FTP login.

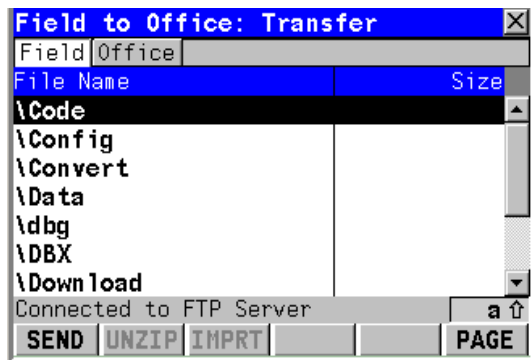


**F1(CONEC)** will connect to the Office (FTP server). An Internet connection is mandatory else the FTP connection will fail.

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When the system is connected successfully to the FTP server a message is displayed in the message line “Connected to FTP Server”.

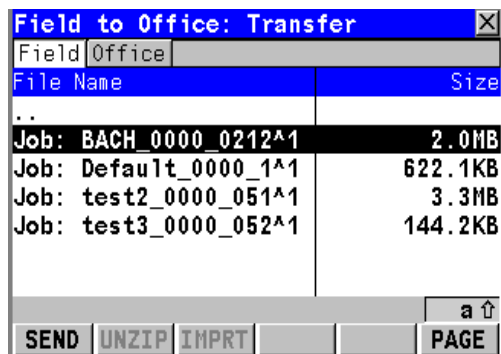
### How to navigate the Field / Office Pages and Folders

The **Field to Office: Transfer** panel is split into two pages:

- The **Field** page displays the content of the instruments CF Card
- The **Office** page displays the content of the FTP server

Navigating in the **Field to Office: Transfer** panel:

- To change between the Field and Office pages use **F6(PAGE)**
- To select a different file or folder use the **Arrow** keys
- To go back to the previous folder select [..] and press the **Enter** key
- To view the contents of the selected folder press the **Enter** key
- **Jobs** and **Codelists** are displayed as a single file



Note: Field to Office does not support the use of Internal memory instead of CF-Cards for field to office transfer.

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### How to transfer data from the Field to the Office

Once connected to the Office, by default, the Field Page is displayed. To transfer data from the Field to the Office the following steps need to be taken:

1. In the **Office** page select the folder to transfer the file to
2. In the **Field** page select the file or folder to be transferred
3. **F1(SEND)** to begin the transfer

When **F1(SEND)** is executed the following steps are taken automatically:

1. The selected file or folder is **zipped** into a \*.ZIP file in the Download folder on the CF card.
2. The new \*.ZIP file is **transferred** to the pre-selected folder on the Office FTP server.
3. After successful transfer, the \*.ZIP file is **deleted** automatically from the Download folder.
4. The user is **notified** with a "Transfer complete" message.

The \*.ZIP file is now visible on the **Office** page.

Note: If the Internet connection is interrupted during a transfer, the user will have to repeat the steps again. If an interruption occurs, the \*.ZIP file is not automatically deleted from the Download folder.

### How to transfer data from the Office to the Field

To transfer data from the Office to the Field the following steps need to be taken:

1. In the **Office** page select the file or folder to be transferred.
2. **F1(RECV)** to begin transfer

When **F1(RECV)** is executed the following steps are taken automatically:

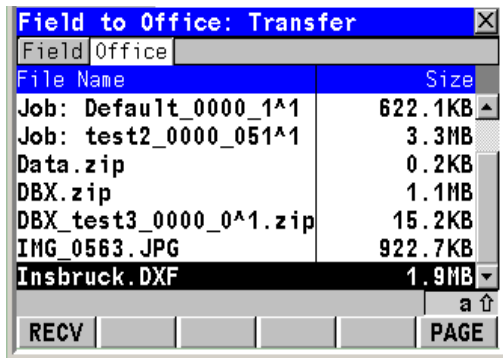
1. The selected file or folder is **transferred** to the Download folder on the CF Card
2. Any \*.ZIP files are **unzipped**
3. All recognized file types are **moved / imported** to the appropriate folder on the CF card (e.g. Jobs are moved to the DBX folder; Code lists are moved to the Code folder). Unrecognized file types remain in the Download folder.
4. The user is **notified** with a "Transfer complete" message.

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If the Internet connection is interrupted during a transfer, then the automatic steps 2 – 4 are not taken. Any files that were not completely transferred will have to be transferred again. However, files that have been successfully transferred can still be manually unzipped and imported. This can be done using the following steps:

1. In the **Field** page navigate to the Download folder
2. Select any \*.ZIP files and execute **F2(UNZIP)** to unzip the file
3. Select any files or folders in the Download folder and execute **F3(IMPRT)** to import recognized file types into the appropriate folder on the CF card



A complete description can be found in the GPS/TPS1200 Technical Reference Manual under chapter **Field to Office**.

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## Support of RTCM v3.1 Coordinate System message (GNSS)

As long the GNSS Reference Network provider defines a Coordinate System with their RTCM 3.1 RTK corrections, the user is no longer required to think about selecting or creating a proper local coordinate system on their GNSS Rover.

SmartWorx v6.00 can receive information about the projection, transformation, ellipsoid and CSCS models, which are included in the RTCM 3.1 RTK format. This information is used to generate and activate the local coordinate system on the Rover.

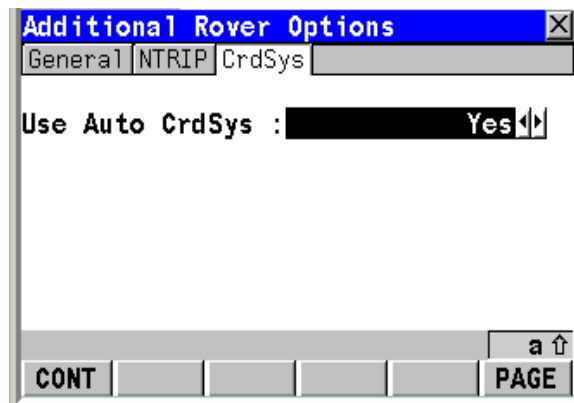
Utilising RTCM messages that contain coordinate system information, the users of the RTK service can get their results in the desired coordinate system without any interaction. The RTK services (Reference Networks) can ensure that current information for the computation of the coordinate system information is always used. This method simplifies coordinate systems for the users, will increase the acceptance and traceability of RTK services and supports the need for standards in surveying world.

Note: this new functionality is also supported on a SmartPole and a SmartStation.

### How to Activate Automatic RTCM Coordinate System messages

Having configured the system as an RTK Rover then to make use of this functionality three things need to be set in the Real-Time mode settings:

1. Set **Real-Time Format** to <RTCM v3.1>
2. **F2(ROVER)** → **General** Page → set **Ref Network** to anything except <None>
3. new **CrdSys** Page → set **Use Auto CrdSys** to <Yes>



### New Behaviour when Auto CrdSys is activated

- WGS84 is the active Coordinate System until a new Coordinate System is received via RTCM
- When any application is started, the user is informed that **Auto Coordinate System** is active

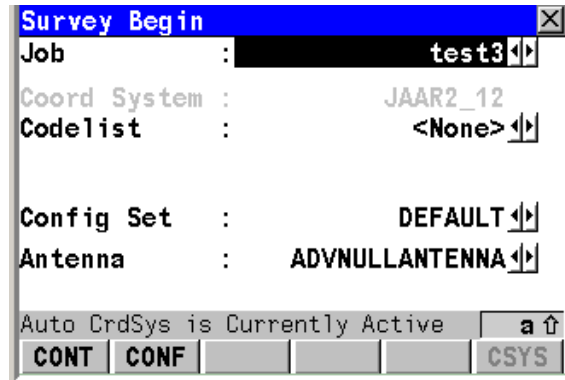
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- The user cannot select another coordinate system manually without deactivating Auto Crdsys
- When a new Coordinate System is received it is written into the DB-X and is immediately activated
- When a coordinate system is received on the Rover a message will inform the user



### Changes to Coordinate System Management

- A coordinate system that was received automatically via RTCM v3.1 is stored with source RTCM.
- It is not possible to edit a coordinate system which was received via RTCM with the exception of two cases:
  1. When the transformation results in ellipsoidal heights then the user is able to manually assign a geoid model to the coordinate system.
  2. When a projection is not received as part of the coordinate system then the user is able to manually assign a projection to the coordinate system.
- The individual components (Transformation, Ellipsoid, etc) of the Coordinate System are Named after the Coordinate System and are also not editable and have the source RTCM

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| Coordinate Systems |         |
|--------------------|---------|
| Name               | Source  |
| JAAR2_12           | RTCM    |
| SWISS              | USER    |
| WGS 1984           | DEFAULT |
| test2              | USER    |

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Note: with SmartWorx v6.00 height residuals (e.g. from a geoid model) are not yet supported. That means if the coordinate system needs to achieve orthometric heights, then the geoid model needs to be manually selected.

For additional information and detail please refer to the GPS1200 Technical Reference Manual.

**Easier handling of Sort Order and Filter Settings in data management (TPS and GNSS)**

Up until today, each time a new job was created when the user wanted to use the same filter settings they used before in the previous job, they had to manually define the filter settings again.

SmartWorx v6.00 helps in such a case, each time a new job is created the the sort order and filter settings that are stored in the sensor's system RAM are used as the sort order and filter for the new job. The point sort order and point filter settings of a job are stored together with the job as soon as the job becomes active and when the user edits a job and exits the **MANAGE Sorts & Filter** panel.

**New default device for Japanese Market: IFX300L (GNSS)**

With SmartWorx v6.00 a new default radio device is supported for the Japanese market: the IFX300L radio, which is also available in a System1200 GFU housing. This radio is similar to the forerunner IFR-300L, but allows a transmission rate over the air up to 4800 kb/s.

**Fully Bluetooth port availability on RX1250**

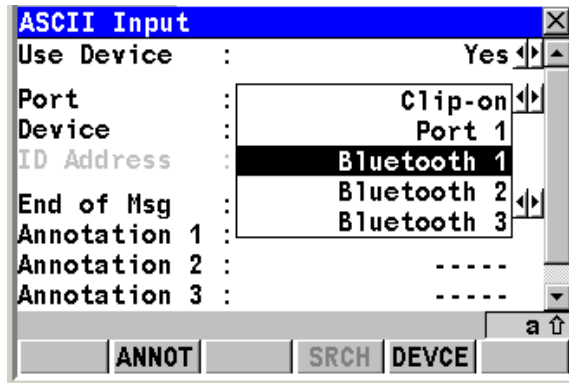
With SmartWorx v6.00 all listed Interfaces can now be used with Bluetooth.

As an example **ASCII Input Interface** now supports Bluetooth communication to a third party device (e.g. Depth sounder) that sends ASCII information (e.g. depths) to the sensor.

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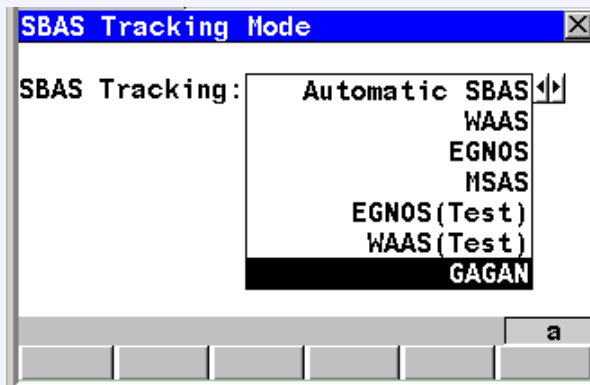
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Bluetooth communication is now also enabled on the **Export Job Interface** and the **ASCII Remote Interface**.

### Support of SBAS System GAGAN (GNSS)

**GAGAN (GPS Aided Geo Augmented Navigation)** is the Indian answer for EGNOS, MSAS and WAAS. This Space Based Augmentation System (SBAS) provides geostationary satellite based correction signals for sub meter navigation.



### Reference Line: Stake to Polyline (GNSS and TPS)

#### Stake to Polyline

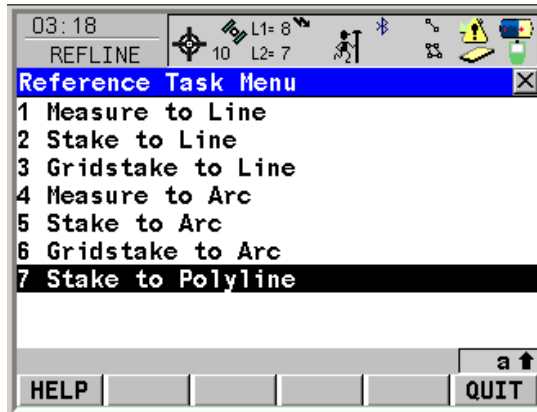
The SmartWorx v6.00 Reference Line application has been enhanced to fully support polyline stakeout. It is possible to select a line object from a job or import a line from DXF to stakeout. All line and area objects within a DBX job can be used for stakeout.

The Reference Line application now has a new Reference Task Menu, listing the 7 different Reference-tasks now available. The new **“Stake to Polyline”** feature can be accessed from this menu.

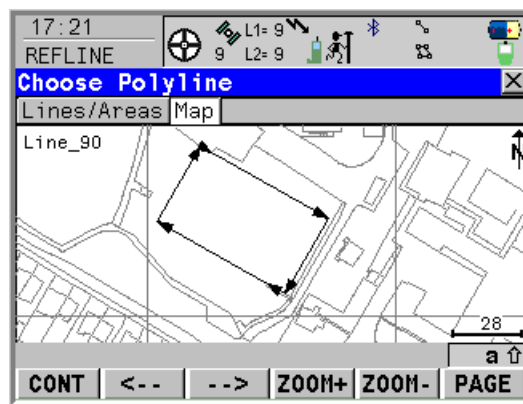
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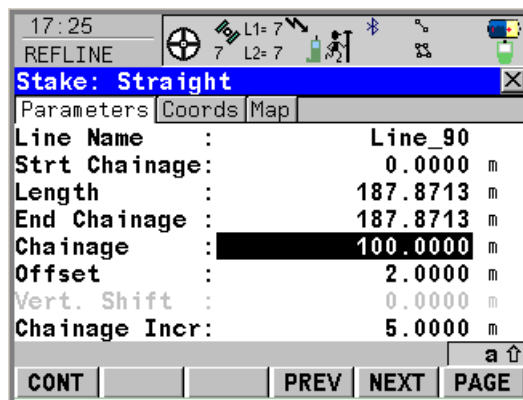
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The user can select the object they want to stakeout using the map view (selecting directly the object or using the **F2** ← or **F3** → buttons). Alternatively lines and areas can be selected from the **Line/Areas** tab.



Having selected the object to stake out the user can view certain parameters of the object such as name and length. The user can also define a start chainage, offset and chainage increment as well.



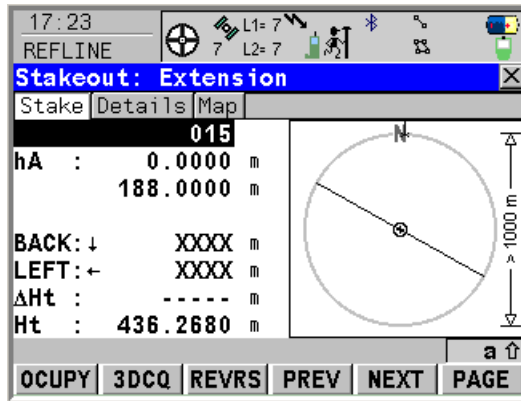
Pressing **F1 CONT** brings you to the stakeout page. This is common with all other stakeout pages in **Reference Line**.

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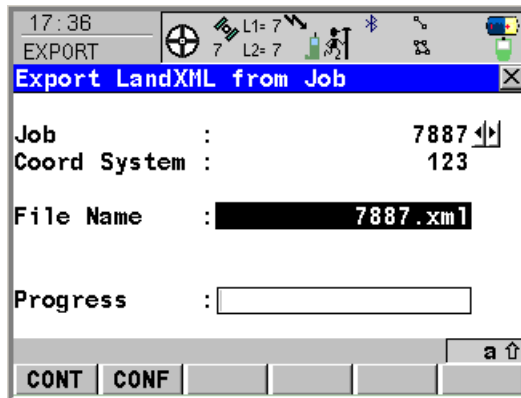
This new functionality is a big advantage in combination with DXF files which were imported to jobs.

For more detail about this enhanced functionality please refer to the Technical Reference Manual under chapter: Reference Line application

## LandXML Export (TPS and GNSS)

### LandXML Export - New, licence protected application

LandXML Export is a licence protected application that can export LandXML data directly from the System1200 sensor (GX1200, TPS1200+, RX1250) to a \*.xml file. Once loaded the application can be found under **Convert > Exp Data > Export LandXML**. Based on the job selection a file name is automatically suggested.



It is possible to configure the application under **F2 CONF**.

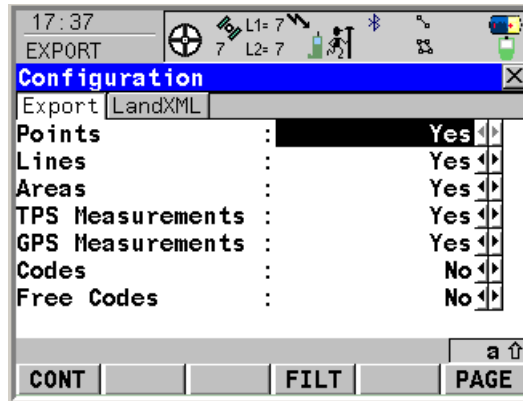
In the **Configuration** panel the different elements and objects to be exported (e.g. Lines, Areas, Codes etc) can be selected

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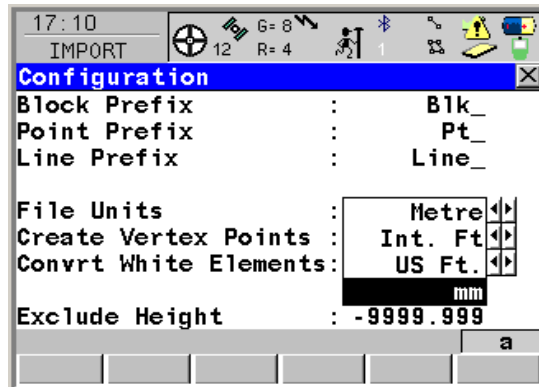
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**DXF Import enhancements (TPS and GNSS)**

**Improved importing of DXF files**

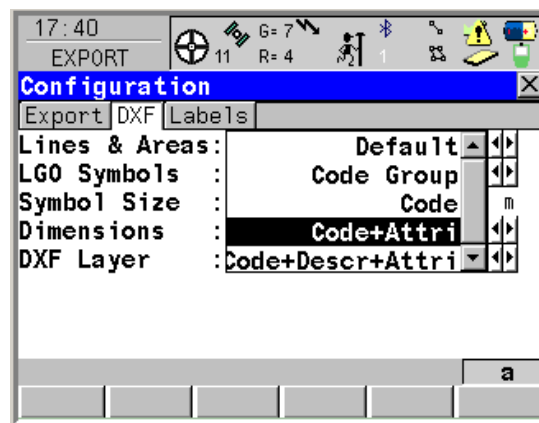
When importing DXF files to a job it is now possible to select millimetres as the unit for the imported coordinates.



**DXF Export enhancements (TPS and GNSS)**

**Creation of DXF layers during export:**

In **DXF Export** it is now possible to configure how layers will be created and written into a DXF file.



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## TPS telescope Accessories (TPS)

### A new TPS telescope accessories panel has been added to SmartWorx

This functionality has been added for customers who are using a motorised totalstation with a telescope accessory such as a sunshade or diagonal eyepiece. It is able to limit the rotation of the totalstation when either an accessory is used or when the instrument is mounted close to an object where a complete 360 degree turn is not possible.

Limiting the movement prevents damage to either the instrument or accessory.

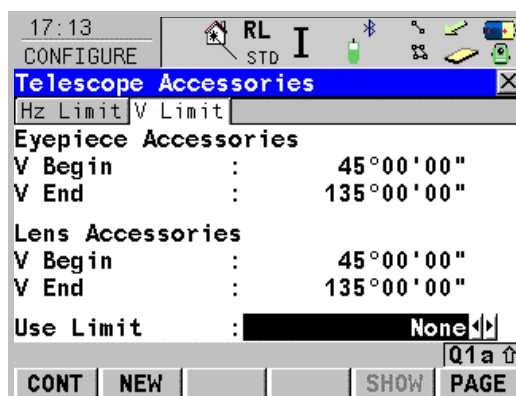
Starting from the Main Menu the panel can be accessed by pressing **5 (CONFIG)**, **2 (INSTRUMENT SETTINGS)**, **7 (TELESCOPE ACCESSORIES)**.



With **F2 (NEW)** the horizontal limits can be defined by positioning the instrument or by entering the values manually. The defined limits are remembered even when the instrument is switched off. The limit can either be activated or deactivated by the **Use Limit** list box.

**F5 (SHOW)** will turn the totalstation to the predefined limits.

**F6 (PAGE)** accesses the vertical limit panel where the limits for the objective and ocular can be defined.



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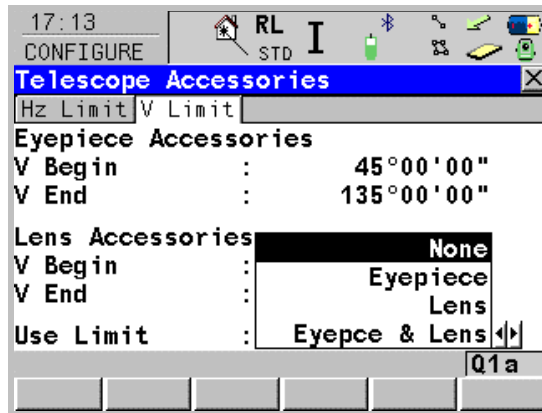
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Similar to the “Hz Limit” panel the values in the “Vertical Limit” panel can either be entered manually or defined by pointing the instrument.

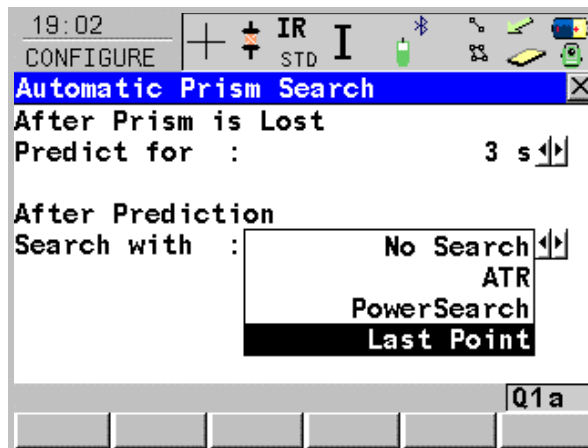
Please note, if you want to position to the range limits the accessories in used need to be selected from the “Use limit” list box.



**A new After Prediction Search routine (TPS)**

A new **After Prediction Search** routine has been implemented. It will turn the instrument after an unsuccessful prediction to the last measured point. The functionality can be selected in the **Automatic Prism Search** panel.

Starting from the main menu the panel can be accessed from pressing **5 (CONFIG), 2 (INSTRUMENT SETTINGS), 3 (AUTOMATIC PRISM SEARCH)**



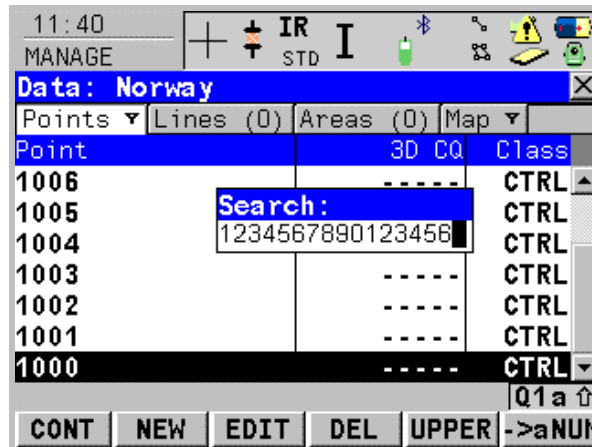
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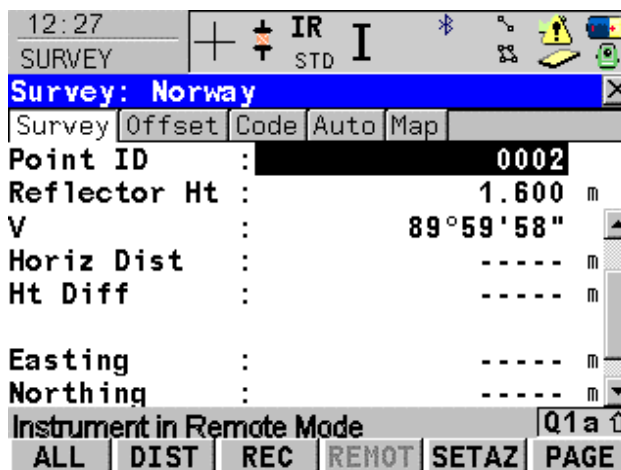
**Data Management (TPS and GNSS)**

Within SmartWorx 6.0 it is now possible to search for Point ID's with up to 16 characters.



**TPS Remote Mode**

If the instrument is used with an RX1250 in Data Logger Mode or when the instrument is being controlled by GeoCom commands, the message “**Instrument in Remote Mode**” appears in the status line.



When the message appears the display and keyboard are locked on the totalstation.

To enable the display and keyboard functionality the **SHIFT** key on the totalstation needs to be pressed for 3 seconds. The display and keyboard can be locked again by pressing the **SHIFT** key a second time for 3 seconds.

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### Orientation & Height transfer (TPS)

The delta height is now displayed in the **Sigma** page.

### Google Earth – Support of KML export using Format files (TPS and GNSS)

Some example Format Files that can be loaded onto the instrument to export a job to a .KML file, are available on the SmartWorx v.6.00DVD.

The created KML file can then be loaded into Google Earth to illustrate the measurements.

Sample format files can be found on the DVD under:

**\_Gps1200\GPS1200\_SampleData\FormatFiles\Google\_Earth**

Note: Points have to be in WGS84.

### General Improvements (TPS and GNSS)

- Improvements have been made to **Coding** with line work. A faster algorithm is now used to search for and to open the line. For this it is required that the line ID template are configured to **Use Code&String** (to be accessed via: **5 (CONFIGURATION), 1 (SURVEY SETTINGS), 1 (ID TEMPLATES)**). This algorithm will work with any old job where all lines have been created using this Line ID template.

### General Improvements (GNSS only)

- Improved GLONASS satellite tracking at low elevations. The new ME Firmware v3.015 needs to be loaded onto the GNSS instrument.
- Improved GPS Satellite PRN32 support for RTCM v2 messages 1, 2 and 9, 2.
- More robust status handling (Icons) for Bluetooth connection between RX1250 and ATX1230/ATX1230 GG
- In rare cases it was observed that NTRIP connection fails after re-starting the instrument. This is resolved as well in SmartWorx v6.00.

### General Improvements (TPS only)

- The telescope firmware has improved and delivers now more robust measurements in sunny conditions.
- A new information message (1854) now tells the user that the instrument is in GeoCOM mode. Applications must be exited and SmartWorx shut down properly before changing to Terminal mode.

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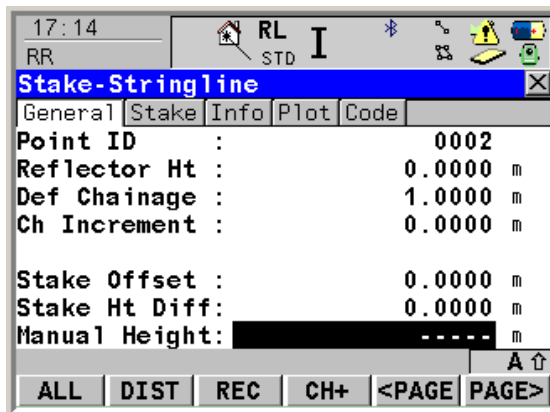


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**RoadRunner: Manual Height on General Page (GNSS and TPS)**

**RoadRunner: Manual and DTM Heights (Road and Rail)**

The **Shift EXTRA Menu Manual / DTM Height** section was improved. The **Manual Height** can now be defined directly on the **General** page.



**DTM Height Layer** and **2<sup>nd</sup> height from DTM Info Layer** remain in the **Shift Extra Menu DTM Height**.



**RoadRunner: Offset Direction (GNSS and TPS)**

**Offset Direction: Perpendicular or define an Angle to Alignment (Road)**

A configuration setting handles the **Offset** direction for stakeout. Two options are available:

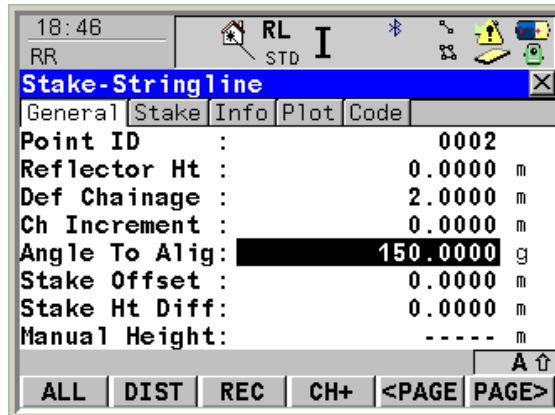
- **Perpendicular to Alignment** defines the offset direction perpendicular to the alignment (as implemented in former RoadRunner versions).
- **Angle to Alignment** handles the offset in relation to the tangent direction of the segment at the defined chainage, in clockwise direction.

**Angle to Alignment** appears on the **General** page and is taken into account for following stakeout methods: Stringline, Individual Stringline and Manual Slope.

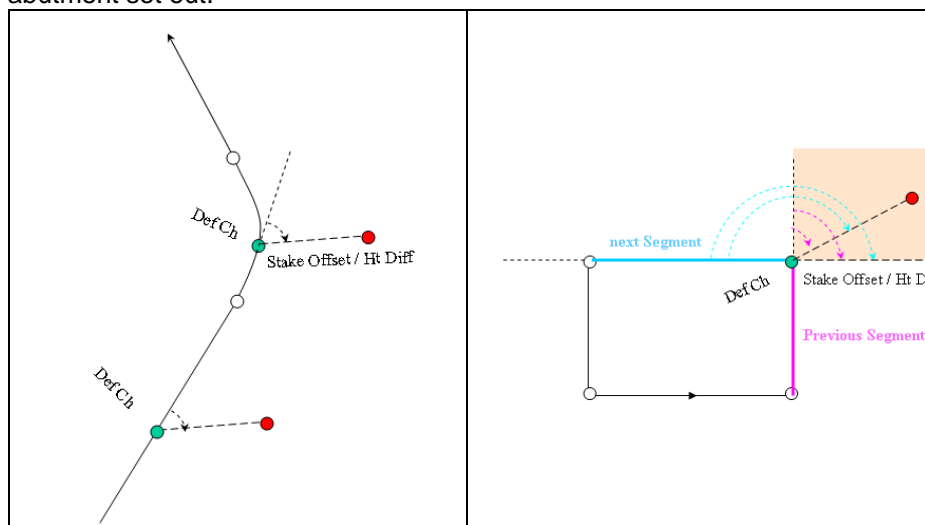
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**Angle to Alignment** is a tool to stake corners of an excavation pit or bridge abutment set out.



**RoadRunner: Chainage De/Increment (GNSS and TPS)**

**Chainage De/Increment with ◀▶ on Stake Page (Road, Rail, Tunnel)**

**Stake** page now allows one to **decrement / increment** the defined chainage by using the ◀/ ▶ arrow keys in Road, Rail and Tunnel, if a Chainage **In-**crement value is defined.

**RoadRunner: Line Selection (GNSS and TPS)**

**Selecting lines by clicking on the screen in plan view**

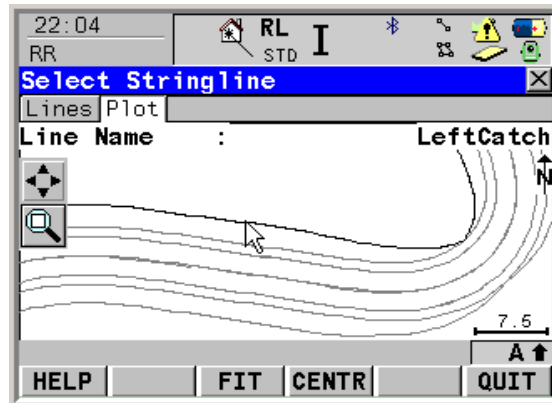
In addition to the existing possibility of selecting a line in the x-section view it is now also possible to select a line in the plan view (e.g. in the Define Page for Individual Stringline or Task Wizard).

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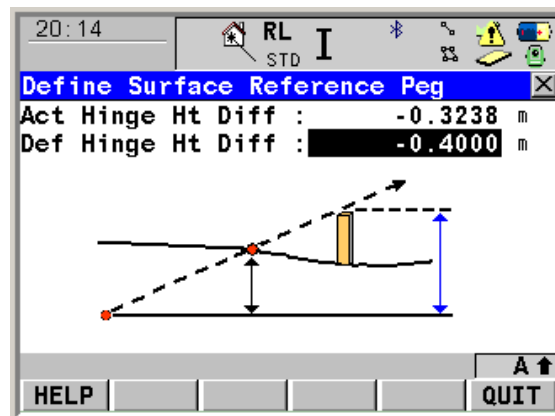
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**RoadRunner Reference point Surface (GNSS and TPS)**

**Additional Slope method: Reference Point in relation to Slope surface (Road)**

With the Slope Method **Reference Point Surface** the peg (Nail) is staked out in the slope surface in relation to the Catch point.



**RoadRunner Rail: Chainage Centerline (GNSS and TPS)**

**Enable / Disable Chainage Centerline (Rail)**

An additional Rail configuration setting **Chainage CL: <Yes> / <No>** allows one to enable / disable the Chainage CL for the chainage calculation of the selected layer.

**RoadRunner Rail: CL Height (GNSS and TPS)**

**Additional CL Height setting (Rail)**

An additional Rail configuration setting **CL Height: <Lower Rail>** allows using the Height of the Lower Rail as design Height for the Track Centreline.

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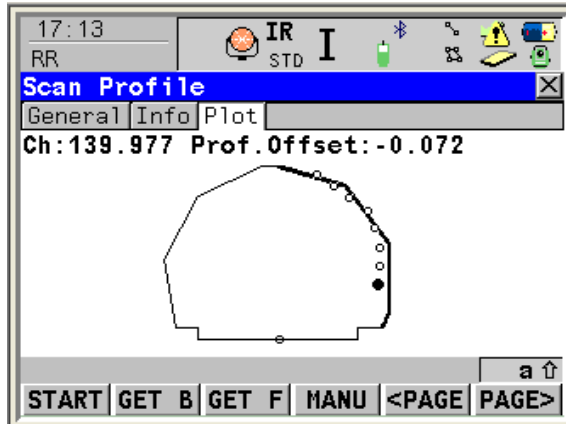


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**RoadRunner Tunnel:  
Show measured  
points (TPS)**

**Measured points are displayed in Scan mode (Tunnel)**

On the **Plot** page of Scan mode the measured points are displayed while scanning.



**RoadRunner Tunnel:  
Profile Offset (TPS)**

**Profile Offset value shown on Plot Page (Tunnel)**

The profile **Offset** value (perpendicular distance between the measured point and design profile) is now also displayed on the **Plot** Page of the **Measurement** panel. A measured point that is located inside of the design profile will always have a negative profile offset.

**RoadRunner Tunnel:  
Profile Scan Range  
(TPS)**

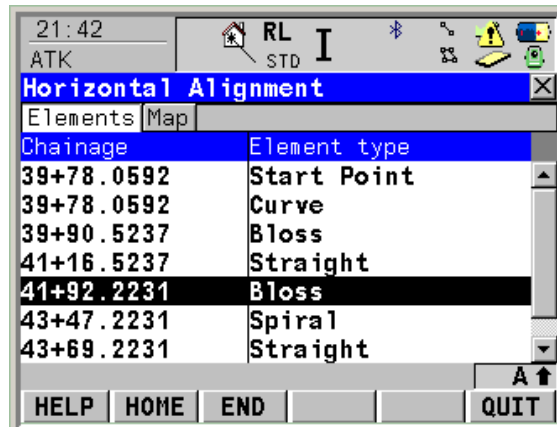
**Profile Scan: define scan range using from and to chainage (Tunnel)**

An additional Tunnel configuration setting **Min/Max Limits** allows to define the chainage limits when scanning profiles either by distance or chainage.

**ATK: Bloss Curves  
for Rail Jobs (GNSS  
and TPS)**

**Alignment Tool Kit: Bloss curve available for Rail Jobs**

Now it is possible to handle Bloss curves (a non linear transition curve) for Rail Jobs.



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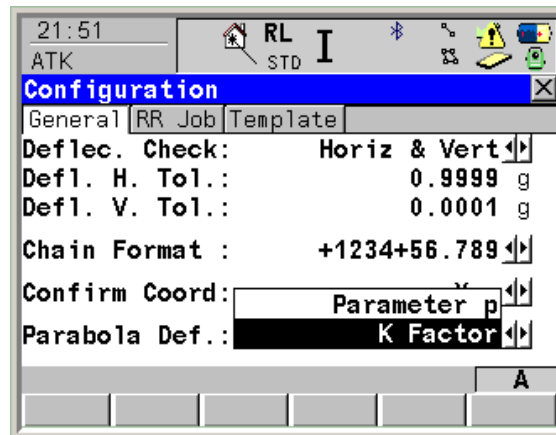


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**ATK: K Factor for Parabolas (GNSS and TPS)**

**Alignment Tool Kit: K-Factor for Vertical Parabola Definition (Road/ Rail Jobs)**

An additional configuration setting allows the user to define a vertical Parabola by using the **K-Factor** or **P-Parameter**.



**ATK: Deflection Tolerances (GNSS and TPS)**

**Alignment Tool Kit: Deflection Check values (Road/ Rail Jobs)**

The Deflection Check Tolerances are now separately handled for horizontal and vertical Alignments (see screenshot above).

**GENERAL FIRMWARE IMPROVEMENTS (GRX1200 ONLY)**

**RTCM Messages (GRX1200)**

**New RTCM Messages available from the GRX1200**

Using the GRX1200 Web Interface it is possible to output RTCM3 GPS and GLONASS Navigation messages 1019 and 1020. This setting is available when configuring the RTCM 3 Real Time Out Interface.

| Real-Time Out 2       |   |                 |           |
|-----------------------|---|-----------------|-----------|
| Message type:         | RTCM v3.1   |                 |           |
| RTCM version:         | -   |                 |           |
| Reference station ID: | 0   |                 |           |
| Time slicing:         | <input type="checkbox"/>  |                 |           |
| End of message:       | <input checked="" type="radio"/> Nothing <input type="radio"/> CR       |                 |           |
| Rates:                | Data rate   | Coordinate rate | Info rate |
|                       | 1 s   | 10 s            | 60 s      |
| Message type:         | <input type="radio"/> Compact <input checked="" type="radio"/> Extended |                 |           |
| Navigation messages:  | <input checked="" type="checkbox"/> Output 1019/1020                    |                 |           |
| <b>Submit</b>         |   |                 |           |

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**RINEX Header Information (GRX1200)**

**New RINEX Marker Name and Number Setting**

It is now possible to set the RINEX Marker Name and RINEX Marker Number from the Web Interface.

| Naming                                |   |
|---------------------------------------|---|
| Site name:                            | <input type="text" value="Site"/>   |
| Rinex marker name:                    | <input type="text" value="Marker"/>   |
| Rinex marker number:                  | <input type="text" value="Number"/>   |
| Coordinates                           |   |
| Coordinate type:                      | <input type="text" value="Geodetic"/>   |
| Latitude:                             | <input type="text" value="47"/> ° <input type="text" value="24"/> ' <input type="text" value="31.0000"/> " <input type="text" value="North"/> |
| Longitude:                            | <input type="text" value="9"/> ° <input type="text" value="37"/> ' <input type="text" value="5.0000"/> " <input type="text" value="East"/>    |
| Height:                               | <input type="text" value="474.000"/> m  |
| <input type="button" value="Submit"/> |   |

**DynDNS Polling (GRX1200)**

**Changes to DynDNS**

The GRX1200 receiver now automatically and periodically checks if the WAN IP address has changed (e.g. if the sensor is installed behind a router) and notifies the DynDNS service provider of the new WAN IP.

**System RAM (GRX1200)**

**New Transfer System RAM from Sensor to CF-Card**

Using the Web Interface it is now possible to transfer the System RAM from Sensor to the CF-Card. The System.ram file will be placed in the \System folder on the CF-Card. This option is available in the Configuration>Tools Menu, in the Web Interface. To transfer a System RAM file from a CF-Card to the Sensor, an RX controller is required.

| Transfer System RAM contents to CF Card |
|---|
| <input type="button" value="Transfer"/> |

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## Get Position (GRX1200)

### New Get Current Position Feature

Using the Web Interface it is now possible to use the current navigation position to set the reference coordinate value by using the link in the lower right corner.

#### Site Name & Coordinates



| Naming                                |   |
|---------------------------------------|---|
| Site name:                            | <input type="text" value="Site"/>   |
| Rinex marker name:                    | <input type="text" value="Site"/>   |
| Rinex marker number:                  | <input type="text" value="Site"/>   |
| Coordinates                           |   |
| Coordinate type:                      | <input type="text" value="Geodetic"/>   |
| Latitude:                             | <input type="text" value="47"/> ° <input type="text" value="24"/> ' <input type="text" value="31.5171"/> " <input type="text" value="North"/> |
| Longitude:                            | <input type="text" value="9"/> ° <input type="text" value="37"/> ' <input type="text" value="6.3778"/> " <input type="text" value="East"/>    |
| Height:                               | <input type="text" value="472.381"/> m  |
| <input type="button" value="Submit"/> |   |
| <a href="#">Get current position</a>  |   |

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