

NEW SYSTEM 1200 FIRMWARE V1.52

Once the design, development and release of the System1200 instruments was completed in March this year, work immediately began on the “life cycle” of the System1200 firmware which runs on the instruments.

This basically means that the additional requirements and wishes which are made by the users of System1200 and passed to the Leica Headquarters in Switzerland are assessed and as many of these wishes as possible are implemented. The result of these “life cycle activities” is the new System1200 firmware – v1.52 - which was released this week. This firmware is available for both TPS1200 and GPS1200 instruments.

This newsletter gives a summary of the main new features in the v1.52 firmware. A complete overview of all new features can be found in the System1200 v1.52 Release Notes which are available on all System1200 v1.52 firmware CDs or can be obtained from the Leica download web page when downloading the firmware itself: <http://downloads.leica-geosystems.com/downloads/>.

Note, the new firmware is protected which means that a valid maintenance contract is required for each instrument. If the contract is not valid, then the firmware cannot be loaded.

This newsletter describes the features of the “main” firmware - the next newsletter will focus on the loadable application programs. This includes new applications which have been released (**Reference Plane** (including Face Scan), **Alignment Tool Kit** and **TPS Hidden Point**) and new features added to existing programs such as COGO and RoadRunner.

WHAT'S NEW IN THE FIRMWARE?

Some new features are common to both the GPS and TPS instruments – others are instrument specific.

NEW FEATURES COMMON TO BOTH GPS AND TPS

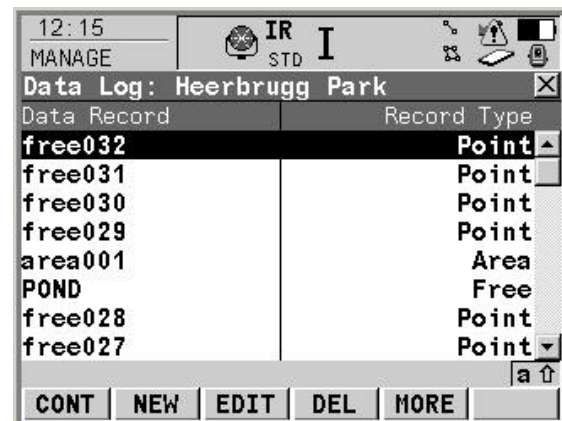
The following features are common to both the GPS and TPS instruments

Coding Improvements: System1200 already has the most flexible coding functionality of any GPS or TPS instrument in the market. A number of new features extend this functionality even further.

It is now possible to **define quick codes with alpha characters** (previously only numerical characters could be used). This makes the use of quick codes more logical for users with alphanumeric coding. For example, simply type “t” on the keyboard and with this one key-stroke, the point will be measured and the code “tree” will be selected and stored. If you do not currently use quick codes, then it is strongly recommended you look at what is possible with quick coding – it can certainly improve productivity.

It is now also possible to **assign quick codes to line and area codes** (previously quick codes could only be assigned to free and point codes). This means that it is now even easier to create new lines and areas and assign a code to the line or area. For example, simply type “f” on the keyboard and with this one key-stroke, a new line will be created and opened and the code “fence” will be attached to that line object.

For users of free codes, it is now **possible to add new free codes or edit or delete previously entered free codes** – this is particularly useful if it was forgotten to enter a free code, or the wrong free code was entered.



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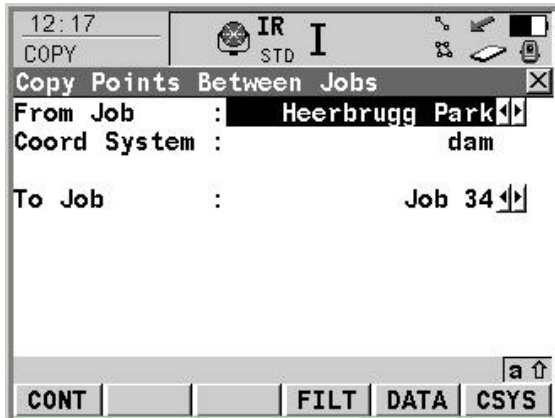
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Access the **MANAGE Data Log** panel (use **shift F4(LOG)** in the **MANAGE Data** panel or a hot key) and use the **F2(NEW)**, **F3(EDIT)** and **F4(DEL)** buttons.

Copy Points: It is now possible to copy points between jobs. From the main menu, choose **4 Convert...** and then **3 Copy Points Between Jobs**.



Now choose the job from where you want to copy the points and the job to where the points should be copied (remember to open the **To Job** list box and press **F2NEW**) to quickly create a new job if necessary). Note, the actual points which will be copied are those which are visible in the list when you press **F5(DATA)** – if you only want to copy certain points then use the filter settings which can be defined using the **F4(FILT)** button.

Keyboard Locking: The keyboard can now be locked by holding down the shift key for 3 seconds. To unlock, again press the shift key for 3 seconds.

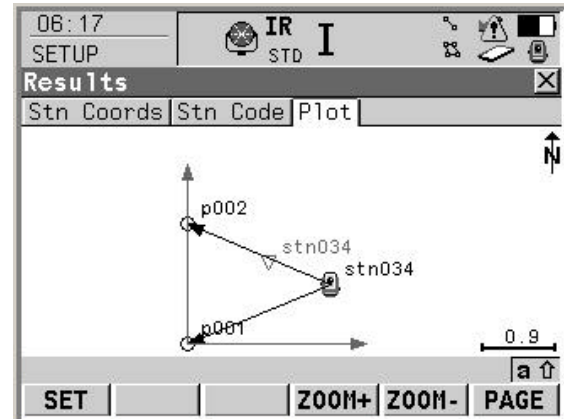
Job File Names: The names of the files which make up a job in the DBX folder of the CF card now includes the job name. However, never separate the individual job files, else the job can no longer be used.

NEW FEATURES FOR TPS1200 ONLY

The following features are specific to the TPS1200 instrument.

Local Resection: A new set-up method called **Local Resection** is now available – this

is based on the existing resection set-up method. The new method allows only 2 points to be measured in order to determine the coordinates of the TPS instrument station. The first point is assumed to have coordinates of (0,0) and the second point is assumed to have coordinates of (0,d) where d is the horizontal distance between the 2 measured points.



The coordinates of the TPS instrument is then computed using the measurements made to these 2 points. This method may be useful where it is necessary to set-up and orientate the TPS instrument relative to 2 specific points.

Measure to the backsight point in Known Azimuth: It is now possible to **measure a distance to the orientation point** when setting up and orienting the TPS instrument using the existing Known Azimuth method. This adds flexibility to the Known Azimuth set-up method.

Known Backsight Limit Check: It is now possible to **define a limit check when measuring to the known point** in the Known Backsight set-up method. A warning message will then appear if this limit is exceeded. The limits can be configured in the **SETUP Configuration** panel - **Checks** page view.

NEW FEATURES FOR GPS1200 ONLY

The following features are specific to the GPS1200 instrument. Note, additional support notes on accessing the Internet and using the NTRIP functionality can be found on the GPS1200 v1.52 firmware CD.

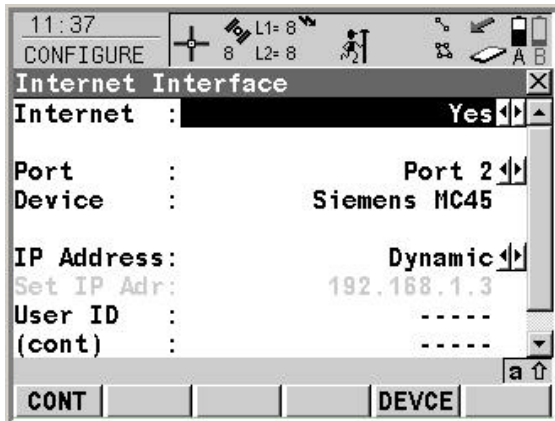
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Internet Access: It is now possible to **connect to the Internet** with GPS1200. In most cases this will be achieved using GPRS capable devices (such as the default Siemens MC45 GSM device). Almost any GPRS capable device can be used which can be configured using AT commands. Any GPS1200 interface can be used with the Internet such as the Real-Time interface or the NMEA interface.



Access the **CONFIGURE Interface** panel to configure the new Internet interface – press **F3(EDIT)** when the focus is on the **Interfaces** line in the **CONFIGURE Interfaces** panel.

Support Of NTRIP: The **streaming of GPS RTK data over the Internet using NTRIP** (Network Transport of RTCM via Internet Protocol) is now fully supported for both the reference and the rover. This means that it is now possible to connect to the Internet (as described above) and receive RTK corrections. This is becoming an increasingly common way of working with RTK GPS both in Europe, North America and other parts of the world. For more information about NTRIP, access the following web site:

http://igs.ifag.de/index_ntrip.htm

SUMMARY

The new System1200 v1.52 firmware is now available. It is protected and therefore needs a valid maintenance contract to be used - it is available now and can be obtained from the Leica web download site.

There are improvements for both the GPS1200 and TPS1200 instruments. It is strongly recommended to read the accompanying Release Notes before loading and using the firmware.

Next weeks newsletter will describe the improvements made to the loadable application programs.



Please contact your local Leica representative if there are specific topics you would like covered in these newsletters.

We welcome all suggestions for TPS1200, GPS1200, specific applications or LGO. We look forward to receive your ideas.

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