

## Editor's Note...

The TPS Team has been very busy this month. Early on we had a brief visit from the USA. The 50 top sales representatives spent one day in Heerbrugg, visiting the factory and meeting the team. It was a very interesting day for us and we hope also for them.

Activities surrounding the exhibit "Intergeo 2001" kept us busy near the end of the month – see report on page 3.

Meanwhile the exciting task of getting the TPS700auto ready for release also occupied our time. Wolfgang, product manager for TPS700, has written an article on some of the new possibilities with this instrument.

This is released now but we are still keeping busy...

**Anna**

## TPS 700

### TPS 700auto

Gone are the days when you had to spend a lot of time aiming at the target to be measured. Today, TPS700 instruments perform this task with automatic target recognition.

Leica Geosystems is pleased to announce the new TPS700auto total stations. These are the new members of the TPS700 Performance Series. The TPS700auto now comes with automatic target recognition (ATR). Leica Geosystems continues to offer our customers a great Performance-class instrument at a low price.



## Overview of TPS700 Performance Series

|                                         | 5"         | 3"         | 2"         |
|-----------------------------------------|------------|------------|------------|
| Angular measurements                    | TC705      | TC703      | TC702      |
| Infrared distance measurements (IR)     |            |            |            |
| Angular measurements                    | TCR705     | TCR703     | TCR702     |
| Infrared distance measurements (IR)     |            |            |            |
| Reflectorless distance measurement (RL) |            |            |            |
| Angular measurements                    | TC705auto  | TC703auto  | TC702auto  |
| Infrared distance measurement (IR)      |            |            |            |
| Automatic target recognition (ATR)      |            |            |            |
| Motorized survey                        |            |            |            |
| Angular measurements                    | TCR705auto | TCR703auto | TCR702auto |
| Infrared distance measurement (IR)      |            |            |            |
| Reflectorless distance measurement (RL) |            |            |            |
| Automatic target recognition (ATR)      |            |            |            |
| Motorized survey                        |            |            |            |

### *ATR and motorization*

ATR (Automatic Target Recognition) enables the instrument to automatically and accurately find and point to a “non-active” target. To achieve this, full motorization has been added to the instrument.

Full motorization also means that many other normally tedious, repetitive tasks are automated for you. Set out points are now automatically turned to, face changing is as easy as the press of a button. Resections are made even easier as the instrument will automatically turn targets once it has the minimum information to calculate it's position (2 points). Together with ATR to execute the fine pointing, resections could not be easier.

The following is a list of cases where motorization is very helpful:

Auto positioning of the instrument for the setout point in setting out and reference line applications.

In the free station application, the instrument will automatically turn to stations as soon as it has the minimum information required to calculate it's position (2).

Auto positioning of the instrument in the orientation routine for the second and subsequent points in multi point orientation operation (known points only).

Initiates an ATR search for the prism (if ATR is activated) when setting 'Hz to 0' in the orientation routine.

### *Additional functionality*

The latest release of Firmware (V200.400) includes many new features for both the new TPS700auto series and the current non-auto TPS700 instruments.

Some of these are:

#### *Coding*

Free coding is now initiated from different locations in the system. In this version, point coding is located in the “Meas & Rec.” and in the surveying application. Free coding is accessed at any time with the FNC button. It is now also possible to enter several free codes one after another with no measurements in between!

#### *Individual Point numbering*

“PtId Run <=> Indiv” option has been added to the FNC list of functions. This enables the user to interrupt point collection with sequential numbering to collect a single point with a fixed name or point number e.g. Cadastral control point.

#### *User defined Start up screen*

It is now possible for the user to define the screen that is displayed on start up. Briefly described, this is achieved by recording the keystrokes necessary to reach your desired screen from the regular start up screen (max 16 keystrokes). The instrument ‘replays’ those keystrokes every time it starts up.

#### *US Feet – Meters*

A function has been added to the FNC list that enables users to quickly switch between US

Feet with 2 decimal places and to Meters with 3 decimal places.

#### *Layout and more detailed Warnings*

Major improvements have been made to the overall layout of the system making it more structured and easier to use.

Some of these improvements are

Exit: The <exit> option has now got a slightly modified action. When the user is selecting <exit> from inside an application, the user will be taken to the opening dialogue of that application. If the <exit> option is selected at any other time, the user is taken to the “Meas. & Rec.” screen.

Graphical Distance modes: Horizontal, slope and vertical distances are now indicated with graphic icons.

Point identification: When viewing data in the data manager, the point number is now displayed next to the overall number of points in the file. E.g. 34/145 signifies that you are viewing block 34 out of 145 blocks

QCodes: Quick codes are now always accessible directly on the “Meas. & Rec.” screen. All that is necessary is that the focus is on one of the options on the bottom of the screen.

There have been some warning and dialogue messages added in this version. They include:

Warning if horizontal distance is negative. (E.G. prism constant is greater than the measured distance.)

Warning if a back-sight point is the same as the station point.

**Leica**  
**Geosystems**

“Upload in Progress” dialogue is now displayed when ATR / EDM firmware is being uploaded.

### Accessories

To optimize the use of the instruments a variety of useful accessories are available. Existing accessories for the TP700 Performance series can also be ordered and used for the new TPS700auto instruments.

### Fast Measurement with or without reflector

Beside the conventional infrared distance measurement, the TCR/TCRauto instruments contain also a reflectorless EDM. With it you can measure from the instrument to targets and objects previously only accessible with a lot of effort instantly, with precision and comfort. Height difference and horizontal distances as well as coordinates are calculated directly from the measured distance.

### Naturally the new TPS700auto instruments still have the well-proven features such as

- Laser-Plummet
- Standard camcorder batteries
- Completely flexible data format
- Easy to use standard application programs
- Memory for over 8000 measurements
- Trigger key on the side cover

- Friction clamp
- Light and handy (5.6kg with tribrach GD111 and battery GEB111)

With the TPS700 and especially with the new TPS700auto Performance series you get an ideal surveying instrument to do the all days work faster and more relaxed.

**Wolfgang**

### News and Events

#### Intergeo 2001 in Cologne

Leica Geosystems was one of many exhibitors at this years Intergeo. The Intergeo is Europe's largest surveying exhibition and is held yearly at a different location in Germany. This year's host was Cologne, a culturally and historically interesting city. The Intergeo has grown from a German exhibition to an international one. I personally spoke with visitors from

11 nations!

Leica Geosystems shared our unique stand with a number of partners and affiliates, above all ESRI and AED. A number of smaller, mostly software oriented, firms helped make our exhibit well balanced and interesting for visitors from all areas of surveying. The main attraction for TPS was of course the introduction of the TPS700auto.

The one-of-a-kind stand with live trees, cobblestone paths, waterfalls, and an occasional thunderstorm drew visitors and was generally well received and talked about.

On a more personal side it was a great chance for the TPS Application group to meet the German sales and support team. We would like to take this opportunity to thank them for making the Intergeo 2001 a successful and very memorable exhibition. Dankeschön!



### Publishing

If you have an article you would like published in TPS News 2001 which may be of interest to other readers, please contact Anna McKenzie at

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