
RoadRunner

RoadRunner is the completely new alignment stakeout application program for System 1200 – the same program and functionality is available for both **GPS1200** and **TPS1200**.

Based on a powerful data structure, RoadRunner allows you to easily stakeout complex designs. Its unique task-based structure means you can perform complex stakeout faster than ever before.

RoadRunner also brings increased flexibility to alignment stakeout - it is possible to completely customise certain screens within the application and logfiles to suit your specific needs.

The power, ease-of-use and flexibility of RoadRunner has already had a big impact on a multi-million dollar construction project....

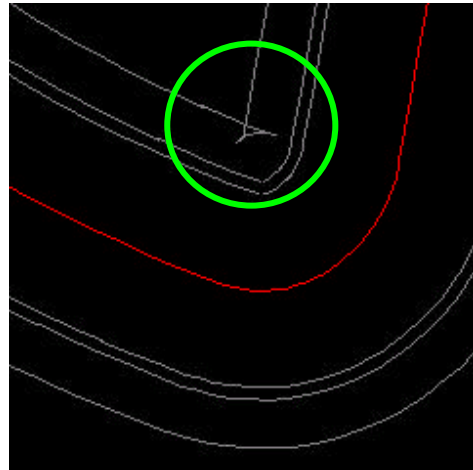
If you are in anyway involved in the staking out or checking of alignments – roads, railways, pipes or any other alignments – then you should definitely take a close look at RoadRunner – you will be amazed at what it can do.

Stringline Based Design

RoadRunner is a **stringline-based** application. Stringlines accurately represent road designs and are a quantum leap forward from old-fashioned cross-sections. It is the use of stringlines, which gives RoadRunner the power to handle complex designs but also to work properly with simpler designs.

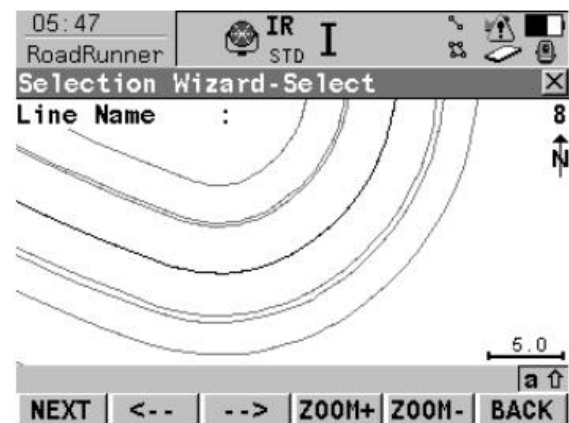
Some competitor's products, which are still based on cross-sections, can have problems handling certain alignments.

For example, the graphic below shows a competitors product trying to represent a road design using cross-sections. Note that in the tight inside curve, the cross-sections are incorrectly interpreted – imagine what would happen when you try to stake out this part of the alignment!



As RoadRunner is a stringline based application it has no problems dealing with tight curves and other situations “cross-section based software” cannot handle.

See below how the same alignment appears on-board the RoadRunner application.



The use of stringlines also give RoadRunner the ability to perform stakeout of even the most complex road designs, such as roundabouts, traffic islands and highway access/exit ramps.

Tasks: Organise Your Data

The unique **task based structure** makes RoadRunner easy to work with and more productive. Define the task you need to do – and then do it!

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RoadRunner gives you the possibility to create different stakeout tasks. Multiple tasks can be created for each of the different methods in RoadRunner:

- Centreline and Stringline stakeout
- X-Slope
- Slope
- Crown
- Layer
- DTM

Creating a task is a simple process thanks to the Task Wizard - the full visualisation of the geometry means you can even graphically select the elements that you want to stakeout.

Additional functionality such as defining the minimum and maximum chainages in which to work, or the width of the working corridor allows you even greater control over your staking out tasks.

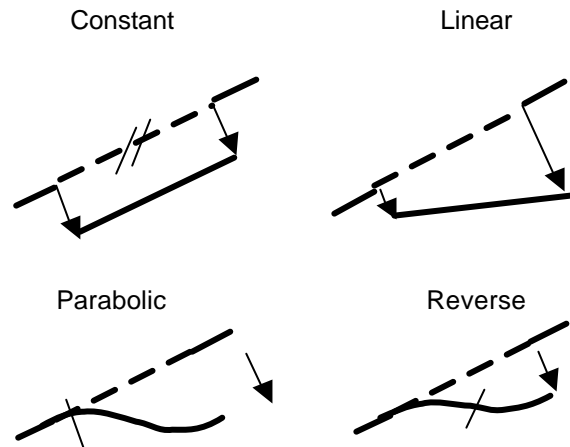
A very popular feature of RoadRunner is the **F3(RESUM)** button - this allows you to return to exactly the same task after a coffee break, the next day or the next week – no need to re-select anything!

Shifts

RoadRunner allows you to create tasks with **shifts** in both the horizontal and vertical alignments. This allows for easy modification of what needs to be staked out without modifying the road data itself.

For example, shifts give you the power in the field to modify the vertical design or horizontal alignment so it coincides with the existing road. Or it may be that you only have a horizontal alignment and need to stakeout kerbs, verges or manholes relative to this alignment – this is all possible with shifts.

The four different types of shifts, which are available in both the horizontal and vertical are shown below:



Tasks give you the ability to control, manage and modify what you need to stakeout. By preparing what you need to do beforehand you are faster and less prone to errors when staking out. This means better productivity when staking out.

Flexibility: Work The Way You Want

RoadRunner offers total flexibility allowing you to customise it to the way you work. **Configurable Info** pages and **Logfiles** mean that you see only the information that you need to see. Configurable slope stake methods, checks and guidance mean that you stakeout the way you want to stakeout.

RoadRunner Info Pages

Info pages are fully customisable - they are basically the same as the user definable display masks, which can be used in Survey, Stakeout and other System 1200 applications.

Each stakeout method has its own Info page with a list of up to 40 stakeout method related variables which can be selected to be displayed. The configuration of the Info pages is stored in the currently active configuration set and it is therefore possible to easily change from one Info page layout to another.

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Logfiles

As with all other System1200 applications, RoadRunner **Logfiles** are also completely customisable by using format files allowing a wide variety of ASCII based outputs to be produced.

Stakeout conformance reports, quality control documents or cut-sheets can be easily created on-the-fly with RoadRunner. You can be ready to deliver results directly upon completing the fieldwork.

Slope methods

Of course, not everybody stakes out the same way. Unlike a competitor who only allows one way of staking a slope, RoadRunner offers complete flexibility. For example, you can choose any slope you want, not just the end slopes and you can also choose from three different slope staking methods.

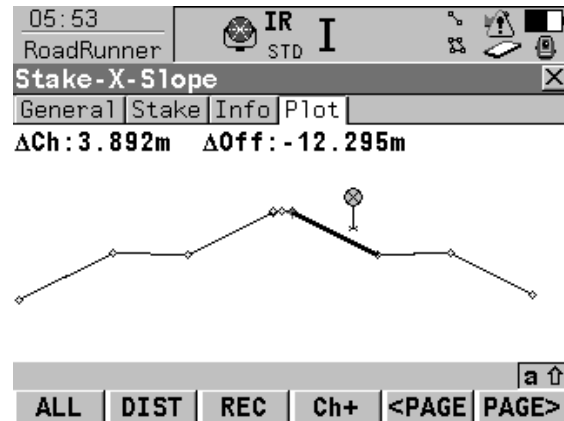
- Reference Peg
- Batter Rail
- Reference Batter

It is always possible, using the **Manual Slope** functionality of RoadRunner, to define your own slope complete with horizontal and vertical offsets. Such flexibility ensures that any change of circumstance can be directly handled in the field.

Graphical stakeout

With the power and flexibility of a graphical stake page stakeout is quicker and easier with RoadRunner. As with the System1200 Stakeout application program, the graphics and orientation methods of staking out can be configured for both the GPS and TPS instruments.

In addition for RoadRunner, the **Plot** page (as shown below) also allows you to view your position relative to the cross section at the exact chainage at which you are currently working. The chainage and offset values are also shown in the plot and as you move, the graphics and these values are updated.



RoadRunner allows complete flexibility in staking out, viewing data and recording results.

Design to Field: Bring Your Data In

Design to Field is a new component within LGO used for converting your road data into the powerful onboard RoadRunner database. It is based on LandXML, a powerful new XML-based format used to describe spatial data, such as road designs.

Being LandXML based means that Design to Field already supports many major CAD packages such as AutoDesk LDD.

The flexibility of Design to Field means that additional importers from other 3rd party software can be included at any time. Currently there are already 11 different importers and the Leica Software Development Centres (SWDCs) are working on more to meet market demands – so it is more than likely that the data from your road design package can already be used in RoadRunner.

Norway: RoadRunner Paving The Way

Early this year, thanks to RoadRunner, Leica Geosystems was chosen as the main supplier of GPS equipment for the multi-million-dollar **Ormen Lange** construction project in **Norway**.

One of the big advantages of RoadRunner for Ormen Lange is the seamless dataflow. Thanks to a project involving SKANSKA Nor-

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way AS, VoaNova AS and Leica Geosystems it is possible to export all the geometric data of the whole road model from NovaPoint or VoaNova's newest constructions software directly to RoadRunner.

Heidi Berg, Product Manager at ViaNova says: "The goal for the coming years is to ensure that all necessary geometric, design data can be exported just as smoothly to System 1200 as the designed road can today."



Jon Bråten from Leica Geosystems Norway has been a driving force behind the success of RoadRunner in Norway. "We couldn't have done this without the good work from the RoadRunner and development teams and we hope other users of RoadRunner and NovaPoint in other countries can benefit from our effort".

"RoadRunner has been received in an overwhelmingly positive way by the biggest and most important users in the market and they confirm (that) this is the tool for the future."

Summary

The **stringline based concept** of RoadRunner provides the power to correctly stakeout complex designs such as roundabouts and traffic

islands that many other products cannot handle.

The unique **task based structure** of RoadRunner means that even the most complicated data can be easily controlled and effectively managed. This results in quicker staking out and fewer errors.

Tasks also give you the ability to make **modifications** to your data in the field, whether it be defining a manual slope or staking out a kerb using only the centreline data, these tasks can be created without modifying the original data.

RoadRunner offers **complete flexibility** which allows you to work the way you want to. RoadRunner can be configured according to how you work – this includes **Info pages, log-files, chainage formats, slope methods or graphical guidance**. Changing to a different configuration of RoadRunner is as simple as changing configuration sets.

The power, flexibility and ease of use of RoadRunner, together with seamless dataflow, have already proved a big success in Norway where RoadRunner is used in a multi-million dollar construction project.



Please contact your local Selling Unit or local Leica dealer 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 idea.

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