Trimble Access Rail

SOFTWARE FOR TRACK SURVEY AND STAKEOUT

The Trimble Access Rail software is used for a variety of surveying tasks within the scope of track survey and stakeout where a direct reference to the design position is necessary.

SYSTEM CONFIGURATION

Trimble GEDO Office Base

Software for data preparation, data editing as well as exchange with external systems. Data can be transferred in digital form, for example from LandXML format. Alternatively, manual input and editing is also possible. An alignment validation check is carried out before use in the field. The alignment is displayed in the curvature alignment or as a 2D plan view together with the reference points. Absolute reference point coordinates can be converted to the alignment as chainage plus horizontal and vertical offset.

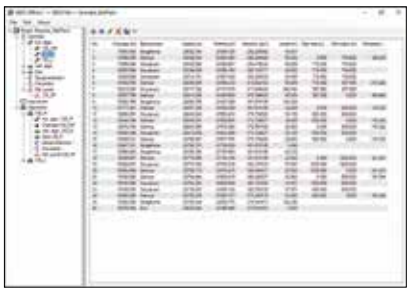
Trimble Access Rail - Stakeout

Software for alignment related track survey in the field. Based on the measurements taken with Trimble total stations or Trimble GNSS receivers, the differences between measured position and design are displayed directly in the field according to the track alignment. The reference values for chainage, lateral and height offset can be entered manually or selected from a list. The calculation can be carried out either horizontally or in a canted system. All points as well as the track alignment with its tangent points are shown in the interactive map.

The track is described by the horizontal alignment, the vertical alignment, the cant/superelevation and a chainage line. In addition to the regular transition curves, special transition curves as well as X-ramps are also supported.

Key Benefits:

- Digital data flow from the office to site
- Alignment-related track survey with live information in the field
- Calculations in both the horizontal and elevated track system
- Support for all common elements of track alignment
- Total station and GNSS-based data acquisition for reliable positioning
- Optimised field work through data checking in advance in the office



SOFTWARE FOR TRACK SURVEY AND STAKEOUT

TRACK ALIGNMENT DEFINITION

TRACK ALIGNMENT

Digital import formats	LandXML (*.xml), Verm.esn (*.tra/*.gra), CARD/1 (*.bag/*.crd), Ascii-Bahn (*.aba), ProRail (*.trc), iGleis, TopoRail, DB track data (*.mdb)[1] and more
Geometry data	Horizontal alignment, vertical alignment, cant, chainage line, gauge extension, precamber bridge construction

HORIZONTAL ALIGNMENT

Definition	Track centre line
Elements	Straight line, circular arc, direction change and transition curves
Transition curves	Clothoid, Bloss, Schramm parabola, Bloss (half wave), Schramm (half wave), Wiener Bogen®, cosinusoidal curve, cubic parabola (e.g. Italy, Korea, NSW), West Rail Cubic

VERTICAL ALIGNMENT

Definition	Gradient
PVIs	Without curvature, Circular or parabolic rounding
Chainage reference	To centre line or chainage line

CANT/SUPERELEVATION

Definition	Rail height above vertical alignment, Support of X-ramps
Ramp types	Linear, Bloss, Schramm parabola, Bloss (half wave), Schramm (half wave), Wiener Bogen®, cosinusoidal curve

CHAINAGE LINE

Definition	Horizontal alignment for primary chainage reference
Elements	Similar to horizontal alignment Station equation (forward and backward)

TRACK ALIGNMENT MEASUREMENT AND STAKEOUT

TRACK SURVEY

Survey	Real-time transformation based on track alignment, Live display of horizontal and elevated offset to the design alignment, Customised display, Tangent point information
Display	Graphical overview map of track alignment with tangent points and measurement point display, Video display for total stations with Vision technology

STAKEOUT

Reference values	Input of chainage, lateral and height offset to the design alignment, Processing of stakeout lists, Tangent point selection from map or list view, Stakeout with constant chainage grid

REPORTS

Logging in ASCII-file

[1] With additional license
[2] Equal to support in Trimble Access

Specifications are subject to change without notice.

SYSTEM REQUIREMENTS

Instruments[2]

Trimble S-series total stations (e.g. S7, S9)
Trimble scanning total stations (SX10, SX12)
Trimble GNSS Systems (e.g. R10, R12, R12i)

Controllers

Trimble TSC7, T7 and T100 controllers

Trimble Access Versions

2021.10 or above (for Windows® OS)

TYPICAL APPLICATIONS

- Stakeout of the design track position with adjacent marking
- Stakeout for turnout installation
- Stakeout of platform edges or objects with track reference
- Control survey
- Track adjustment with low daily output
- Clearance control and preservation of evidence
- Data collection for creation of stakeout reports

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