Switch calculator

Inhaltsverzeichnis

1 Why a switch computer?

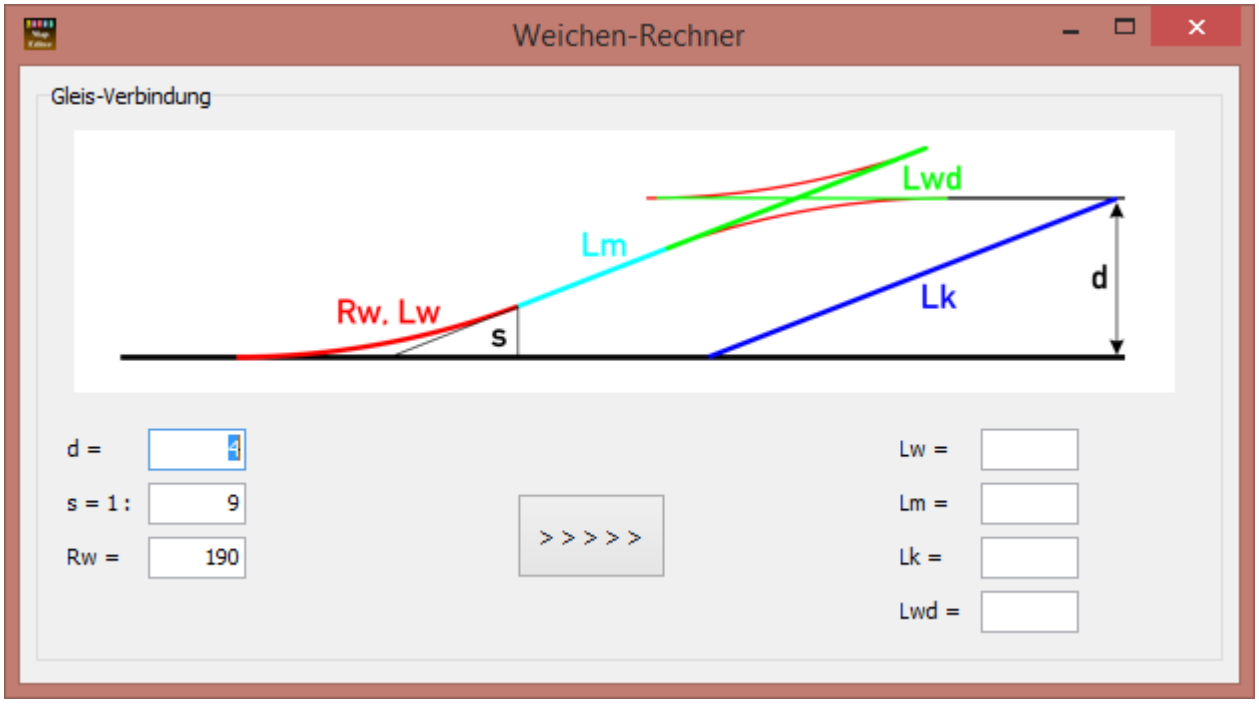
Instead of using predefined switch objects, LOTUS has a flexible system for the construction of switches and crossings, which is urgently needed for extensive road crossings with grooved rails etc.

The downside of this possibility is that as a map developer you are completely on your own when it comes to designing precise, real turnout connections for railroads or for streetcar sections outside grooved rails.

To make this easier, we have integrated this tool, which automatically calculates where to place which track geometry to get the desired result.

We highly recommend this tool if you are carving more than just grooved tracks in asphalt surfaces! Because on the one hand, we think it is a nice and easy introduction to a topic that is actually not that easy at second glance and invites you to deal with the original dimensions of turnouts and track geometries, because you can easily transfer them to LOTUS and rely on the corresponding realism. On the other hand - if you don't think about this, but build according to Pi times thumb - you tend to build turnouts too short, too narrow and diagonal tracks too steep, because you usually look at the track geometry from above, but from the driver's point of view in an extremely flat angle. And then this very important part of a railroad line becomes very unrealistic very quickly...

2 Setup of the dialog box



In the upper part a switch connection is shown abstractly. Each track is only symbolized by a line, which is colored and labeled accordingly. The dimensions starting with "L" are the lengths of the respective track sections, the dimensions starting with an "R" are the radii. "d" is the distance between the tracks - of course not the "space" between them, but the distance between the track centerlines.

Below that, there are the input fields on the left and the output fields on the right.

So the following dimensions are entered on the left:

- d: Distance between the track centerlines
- s: the switch gradient in 1:x, where you only enter the value for x. In the example the switch gradient is 1:9. The switch gradient is the "slope" of the diagonal track (blue in the drawing), where 1:9 means that the diagonal track "shifts" by 1m along 9m of the main track. To "bridge" the 4m track centerline distance in this example, the diagonal track measured along the main tracks must be 9 x 4m = 36m long.
- Rw: Radius of the branching switch track.

Now you can click on the middle button "> > > > >" so that the switch calculator on the right outputs the remaining values:

- Lw: Length of the branching switch track
- Lm: Length of the straight intermediate section between the two curved, branching switch tracks
- Lk: Length of the complete diagonal track without consideration of switch curves, e.g. if a track only crosses the two main tracks
- Lwd: (Only for double crossing turnouts): The length of the track section between the respective pairwise opposite switch points, i.e. the length of the "diagonal tracks" of the double crossing turnout.