Continental Modeller :

Le seul magazine anglais pour les amateurs de chemins de fer non-anglais

Iain Baxter aimed to achieve maximum operation in reasonable space. *Photographs by the author.*

Singen

A fictional setting

My interest in model railways stems from my late father. A prolific model engineer, he started by scratchbuilding in 3-rail O gauge before fulfilling his dream, later in life, of building a 10¼" gauge American outline garden railway! During my childhood he helped me to build two British N gauge layouts. Then along came university and an engineering sales career, thirty years passing before my railway modelling interests were re-kindled. I am fortunate to have travelled extensively for many years as part of my work, including numerous train journeys throughout Europe and Asia. I particularly enjoyed the railways in Japan, Switzerland, and Germany, the latter in combination with the stunning Alpine scenery. Occasionally, my mind's eye would conjure up a modern era N layout, complete with catenary, set in Bavaria! So finally, around the time of my 51st birthday, I got started.

Above
InterCity services cross at Singen, offering a convenient connection with the branch line railcar to Mühlhausen.

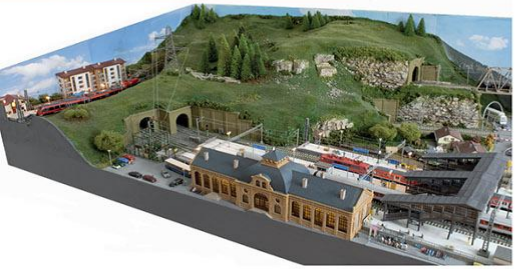
Concept and layout design

Whilst Singen is a real station in Bavaria, the layout is a purely fictional setting. The idea was to create a model railway that would hopefully be engaging to watch, with plenty of train movement, yet sufficiently compact to be set up in a small room at home as well as being transportable for possible exhibition use. As you can see, to achieve these goals necessitated a lot of 'scenic licence', but 100% realism was not the main point of the project.

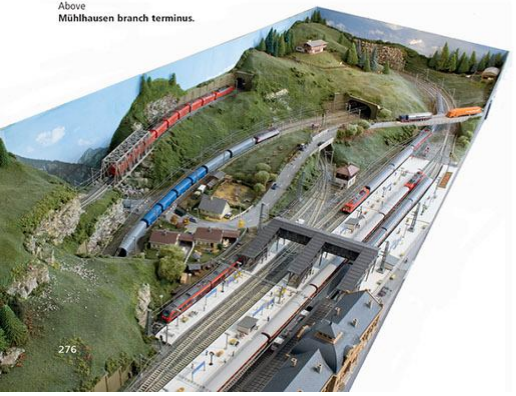
Another aspect I was keen to achieve was for the railway to be self-contained, i.e. to operate without additional baseboard sections and fiddle yards.

From the outset, the preferred concept was for a fair sized rural through station as the main feature and a continuous double track main line in the form of an over-lapped figure-of-eight. This doubles the length of the running lines in a given space and makes train movement interesting to watch. The resulting main line circuit length enables four trains to run continuously on the layout, two in each direction, plus branch line train movements.

Below
Aim achieved: a junction on a double track line with a single track branch, allowing express, regional, and local passenger services plus freight traffic, in a plausible landscape within a reasonable area.



Above
Mühlhausen branch terminus.



I discovered great design freeware, SCARM (Simple Computer Aided Railway Modeller), and the design gravitated towards an overall layout size of 2,440mm x 900mm, divided by a central joint into two baseboards. This provided just enough length to accommodate station platforms for rakes of five coaches, and sufficient width for the figure-of-eight elevated crossover to work with reasonable gradients whilst maintaining a minimum radius of 230mm for hidden track. With the sweeping curve of the main line, on a gradient, occupying the right-hand end of the layout, a natural space on the left-hand side lent itself to an elevated branch line terminus. This became Mühlhausen, reflecting the name of the small village station I discovered on the map just to the north-west of Singen.

Construction

Armed with the layout design, off I went to the Warley show at the NEC in November 2015 to re-educate myself on layout construction, learn about DCC and, of course, to do some serious shopping! I had no model railway equipment remaining from my earlier years at all, so was starting again from scratch.

The main baseboards are 9mm plywood, with 70 x 18mm side frames and 42 x 18mm stiffeners in a grid formation, all screwed and glued. Two steel pins act as spigots engaging with drilled plates to provide accurate and durable location of the baseboards at the central joint. A 12-way nylon block type connector carries the DCC buses and lighting supplies across the joint. The layout of the stiffening framework was carefully planned in advance to ensure that point motors and other accessories would not later clash with the framework. Two large holes were created in the baseboards, one at each end, below the hill sections, to allow access to the hidden track from below. This eliminated the need to create removable sections in the landscape.

Having laid all the track at baseboard level, I turned the whole layout upside down to install the solenoid point motors, power supplies, DCC buses, point motors, and electronic cards on the underside of the baseboard.

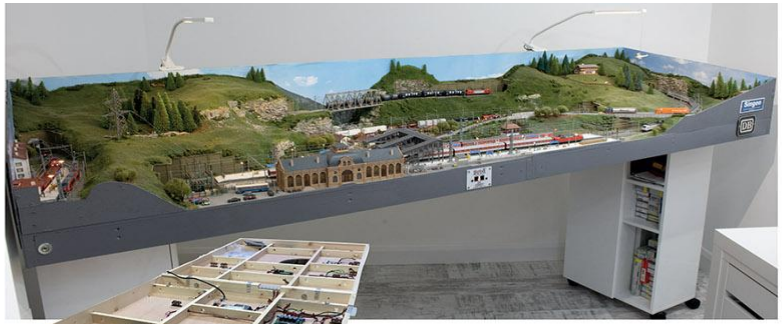
The elevated track sections and gradients were then added using mainly 6mm plywood, taking locations and heights indicated from the SCARM plans. All the trackwork was laid continuously without regard for the baseboard joint, to ensure accurate and smooth alignment. The final step was to cut through all the tracks along the line of the joint, using a Dremel power tool with a fine disk.

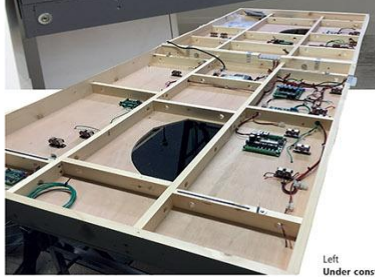
Trackwork and platforms

Trackwork is Peco finescale code 55 which provides a reasonable degree of realism whilst being relatively robust to work with. I made a few jigs to assist with setting track spacing, and the track was secured directly to the baseboards using PVA glue. Small wood screws were used at regular intervals to temporarily clamp the track in place whilst the glue set.

To aid reliable running I used live frog points throughout, with the exception of two Setrack small radius points off scene; all visible points are large radius.

Having made good the various sleeper gaps with loose sleepers, the plan was to lay the ballast next, before any landscaping or scenery started to restrict access. However, I did decide to cut, paint, and fit the station platforms first, which provided defined edges to assist ballast application in those areas. Woodland Scenics fine stone ballast was used, pre-mixed with 'Ballast Magic powder by Deluxe Materials which flows well during laying then sets nicely after spraying with water. I found this to be a great system which also helps in anchoring the visible trackwork.





Left
Under construction.

Electrics

The electrical configuration and choice of equipment was based on good advice obtained from modellers and traders alike during my Warley show visit. Having chosen a Digitrax DCS 51 as the power supply and first controller, a Digitrax PM42 power manager card was used to split the DCC supply into four districts (separate track and accessory power buses, split across the two baseboards). Two CML Electronics DAC20 eight-way accessory decoders were used for main point and signal control, one card for each baseboard (These are still available but now under a new name, Sig-na Trak). These have great functionality and provided a relatively simple way to co-ordinate multiple point control and automatic signal operation for routes. Programming was via a PC interface using Locoanalyse freeware. However, following installation, I discovered that the DAC20s required a separate auxiliary power supply to provide sufficient voltage to drive solenoid point motors successfully. This auxiliary supply ended up at

SINGEN

Overall dimensions: 2,440mm x 900mm. Each grid square = 300mm