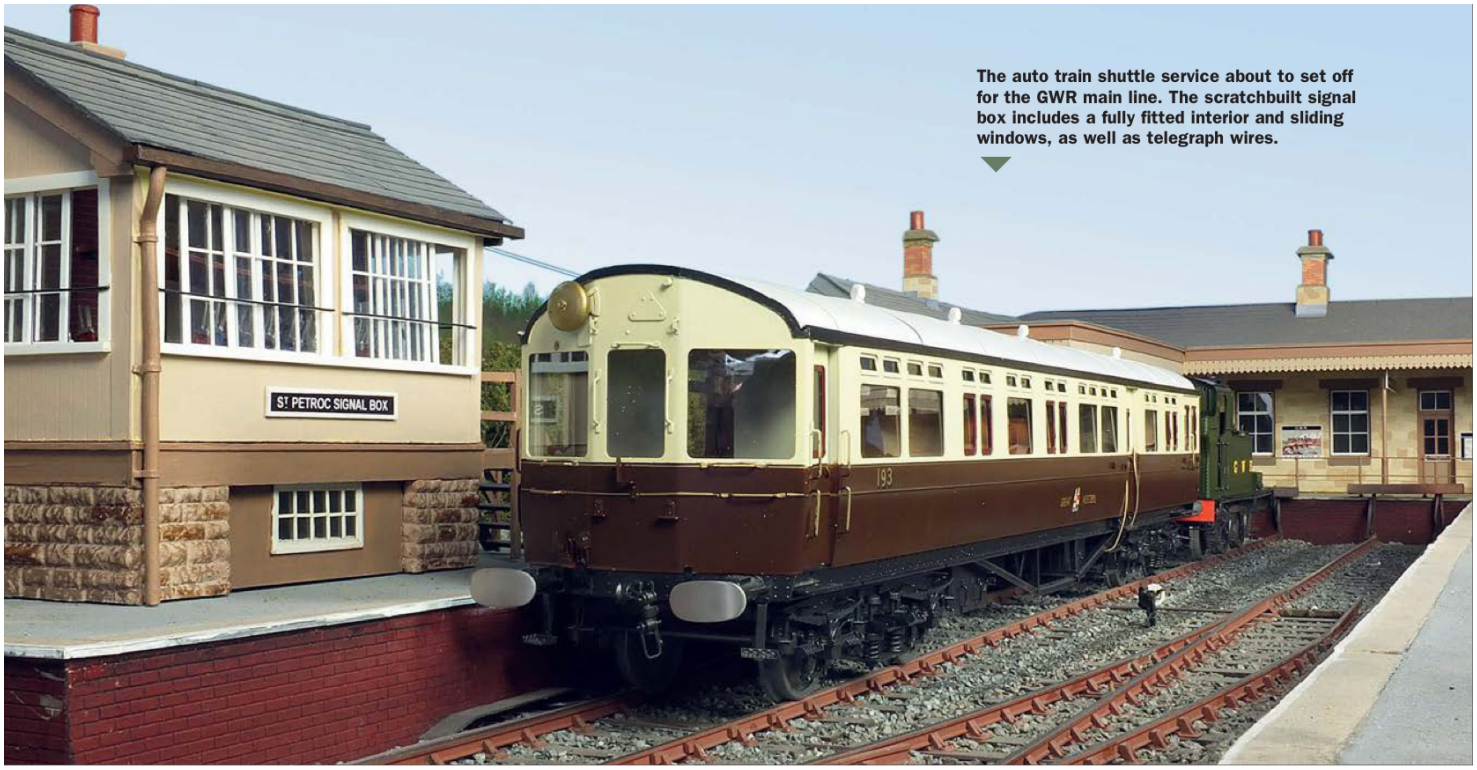


The auto train shuttle service about to set off for the GWR main line. The scratchbuilt signal box includes a fully fitted interior and sliding windows, as well as telegraph wires.

Layout technical details

Baseboards

One of our main concerns with exhibition layouts is weight as our club room is up two flights of stairs. It's becoming more of a challenge as we get older so the baseboards were built in the manner of an egg crate from 9mm ply, reinforced with softwood at the corners and ends, with large holes cut into the cross-members to save weight and permit wiring runs. By chance they are exactly the right size to hold an iPhone, which can use a torchlight app to inspect the wiring. Another weight issue was ballast, due to the sleeper depth in this gauge. We tried granulated cork but it just floated off, so we filled the sleeper spaces with corrugated card inserts so the ballast is just the visible top layer. The track base was made from 6mm insulation board left over from a domestic wooden floor project.

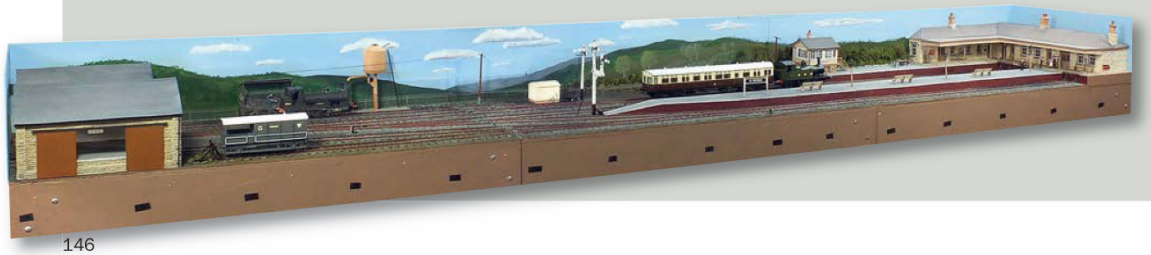
Electrics

One other concern was electrical connections when using stainless steel track. We decided to put a feed to every piece of rail using droppers made from old N gauge rail soldered to the underside of the rail web and in more inaccessible places, using N gauge rail joiners to make the final wiring connection to the droppers. Baseboard connectors are 'chocolate block' connectors that split male and female, a system that we've used successfully on other layouts.

Track power is from a 12V dc Morley Vanguard controller which has been very successful, particularly because the long leads of the hand-held units give great operating flexibility including a front operator when team numbers permit. The controller is now in demand for other club exhibition layouts, which speaks for itself (usual disclaimer).

Point control uses Blue Point motors from EDM Models in York. They are American over-centre switch units controlled by compatible wire-in-tube rods with built-in frog polarity switching. We've had to use much heavier gauge piano wire to drive our points, so we are probably at the top end of what's possible with this system.

The Cliff Barker points are intended for live steam and battery running so we've had to make them suitable for live frog two-rail. Through trial and error we decided to make the whole switch unit independent, retained by insulated fishplates at the frog end and the motor control rod through the tiebar. The whole unit is switched electrically via the frog switching on the Blue Motors.



St. Petroc

Size of scenic section 15' x 2' 4". Plus 6' long fiddle yard. Each grid square = 1ft x 1ft.

An overview of the whole layout – the auto coach is 600mm long, to give an idea of scale.

Layout design

The track plan was based on Bodmin General (GWR) but we added an island platform to increase the operating interest. The prototype is quite compact, so we have been able to squeeze it onto three 5' baseboards served by a 6' fiddle yard using cassettes to save space.

Bodmin General is still operational and home to the Bodmin & Wenford Steam Railway; as with the B&W we run Southern stock as well. In spite of its small size the island platform can accommodate the GW 45xx Prairie and two B-set coaches. The 14xx and auto coach were rare in Cornwall but – as we keep reminding ourselves – this is not Bodmin, we have just used its saint's name.

St Petroc, like Bodmin, is a through station masquerading as a terminus, in that GWR trains pass through, linking the GW main line in the south of the Duchy with the Withered Arm of the Southern Railway in North Cornwall. The time period is post-war with the (newly painted) final version of the GWR lettering scheme.

Structures and scenics

The buildings on St Petroc were all scratchbuilt by Tony Massey although we commissioned laser cut windows and valancing from York Modelmaking. Whilst the buildings were based on those at Bodmin the models are in semi-low relief to save space; the presence of the full canopy, anticipates the preservation era at Bodmin. Trying to set the location meant my first attempt at fully hand-painting a backscene, with mixed results; it is a reminder of how it used to be done.

Given the simplicity of the track plan we decided to signal the layout fully, but this only involves a starter and bracket plus two ground signals, one of which is a double-disc signal. The semaphores were all built from MSE kits, but the ground signals were scratchbuilt by Tony with mechanisms involving model aircraft control rods and cranks, in a similar vein to the Blue Motor point units. The downside is that not many people realise they are working so it's a good job we decided not to make the point rodding operational.

The 45xx and B-set provide connections between the GWR and the SR main line by way of St Petroc, which is at the point of a Y, as was the case with Bodmin.

The Beattie well tank is being serviced before returning to its Southern home shed. St Petroc has a through shed, which allows movement off stage to the fiddle yard. The coaling stage is based on a resin casting from Iron Road Models.

The other detail feature, and one that does get noticed, is the fully rigged telegraph poles, for which we used a product called EZline, which is an elastic filament, from the USA. Being an exhibition layout the poles had to be demountable, so there are fixed runs on each baseboard with free end loops across baseboard joints.

Locomotives and rolling stock

As in the past, the GWR dominates the R-T-R G1 market, so our search for some SR locos produced some old DJB etchings for an M7 on a G1MRA bring and buy stand and castings from a number of suppliers; we scratchbuilt what was missing.

The increasing popularity of large scale model railways has been well documented, as has the decline in traditional skills such as whitemetal kit building, backscene painting and cab control 12V dc wiring. However modellers are retiring with new skills from the workplace, such as CAD drawing and even 3D printing. Tony's professional skill at CAD drawing has enabled us to develop our loco fleet.

This started with Laurie Griffin castings for a Beattie 2-4-0WT. Although these castings were available, the body etchings weren't, so Tony drew up the masters for etching and we now have a well tank, albeit to 10mm scale to match the castings. The need for a firebox front plate and other small parts led to having them 3D printed from Tony's 3D drawings. All of this has now been applied to developing our own kit for 1:32 scale LSWR O2 0-4-4Ts, with commissioned etchings produced from our drawings and a full set of 3D printed castings from Chris Ward at CWRailways; the buffers will have to be metal. We've used Walsall wheels for all our locos to date, but success in developing our own kits has persuaded Tony to produce 1:32 drawings for a Drummond T9, for which Slater's produces the wheels.

Thanks, and future plans

I've had a lot of help in realising this reincarnation of the layouts of my past, especially from Tony, who learnt his craft scratchbuilding N gauge locos and buildings, but has risen to the challenge of large scale modelling to great effect. Thanks also to Kevin Rayworth, who helped sort out the wiring; Alex Roughsedge, who painted the exquisite 1:32 figures we managed to find; and Derek Shore for his superb photos which flatter our modelling efforts.

We couldn't have completed this project without the inspiration of what's been achieved by the team at the Bodmin & Wenford Railway, and their willingness to answer questions and offer practical help with well tank queries.

Having acquired an R-T-R Terrier, and allowed for the Isle of Wight O2s in the current etches and castings project, a layout based on another compact terminus at Bembridge may be next; but for the moment, as with many other Bodmin-set layouts before us, we hope we have captured the essence of Cornish branch line steam by making the most of R-T-R models, albeit in the Premier Gauge.

Forthcoming exhibition

***St Petroc* is booked to appear at the Association of Larger Scale Railway Modellers show in Manchester on Sunday 14 February.**

A flurry of activity as a passenger arrives for the onward connection to the SR.