

# Re-creating Bala

## LAYOUTS THAT NEVER LEAVE HOME

**Whilst travelling Wales and the West Country in 1966, KEITH JAGGERS chanced upon Bala station and nearby Bala Junction - both closed but in perfect working condition. Inspired by the scene - which looked just like a model - he has now recreated it in miniature.**

**D**uring the 1960s Britain's railways underwent many fundamental changes, not least of which was the near-demise of traditional rural services. In times past, at Bala and a thousand other such places, the railway station was as much a focal point for the local community as the village store, church and pub. The station master was a respected pillar of society who knew all the business of his customers, and under him a veritable army of workers (upwards of 30 at Bala in its heyday) toiled in several different departments.

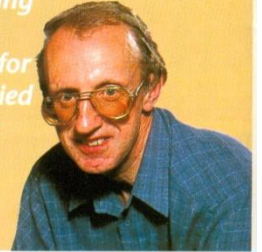
As a young student who lamented their disappearance, I was fortunate to be able to travel extensively in Wales and the West Country with like-minded friends (including a young Chris Leigh!) to record and photograph what remained. It was on one such visit in August 1966 that we discovered Bala station and its near-neighbour Bala Junction. The latter was one of those curious places built merely as an interchange point between two lines.

At other similar locations a small community had often subsequently developed, but here there was none, and the only means of approach was by footpath across a field.

As the station came into view, nestling at the foot of a hill beside the River Dee, it looked just like a model! Some 18 months after the last trains had called - and aided by a Government edict that nothing should be removed for at least three years and its isolation ensuring some immunity from vandalism - everything was intact and could have been just waiting for the next flurry of crossing and connecting services. There and then I decided that this compact layout in its sylvan setting would make an ideal subject for a model.

It was some 15 years before I bought a house with a suitable converted loft area, allowing the dream to become reality. In the meantime, the track-lifting, demolition and reversion to nature of the original station and junction only strengthened

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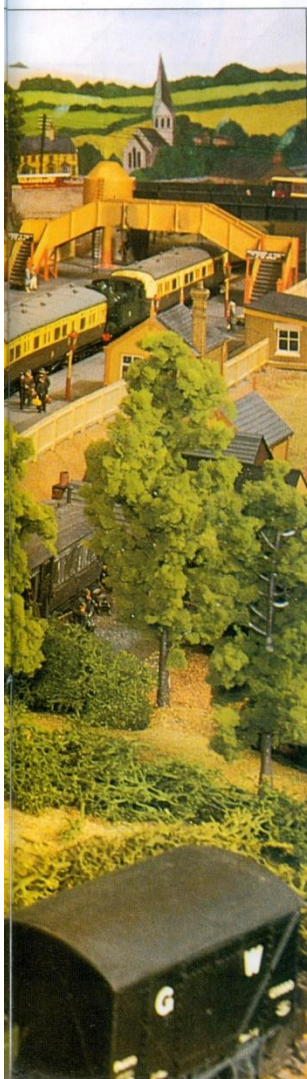
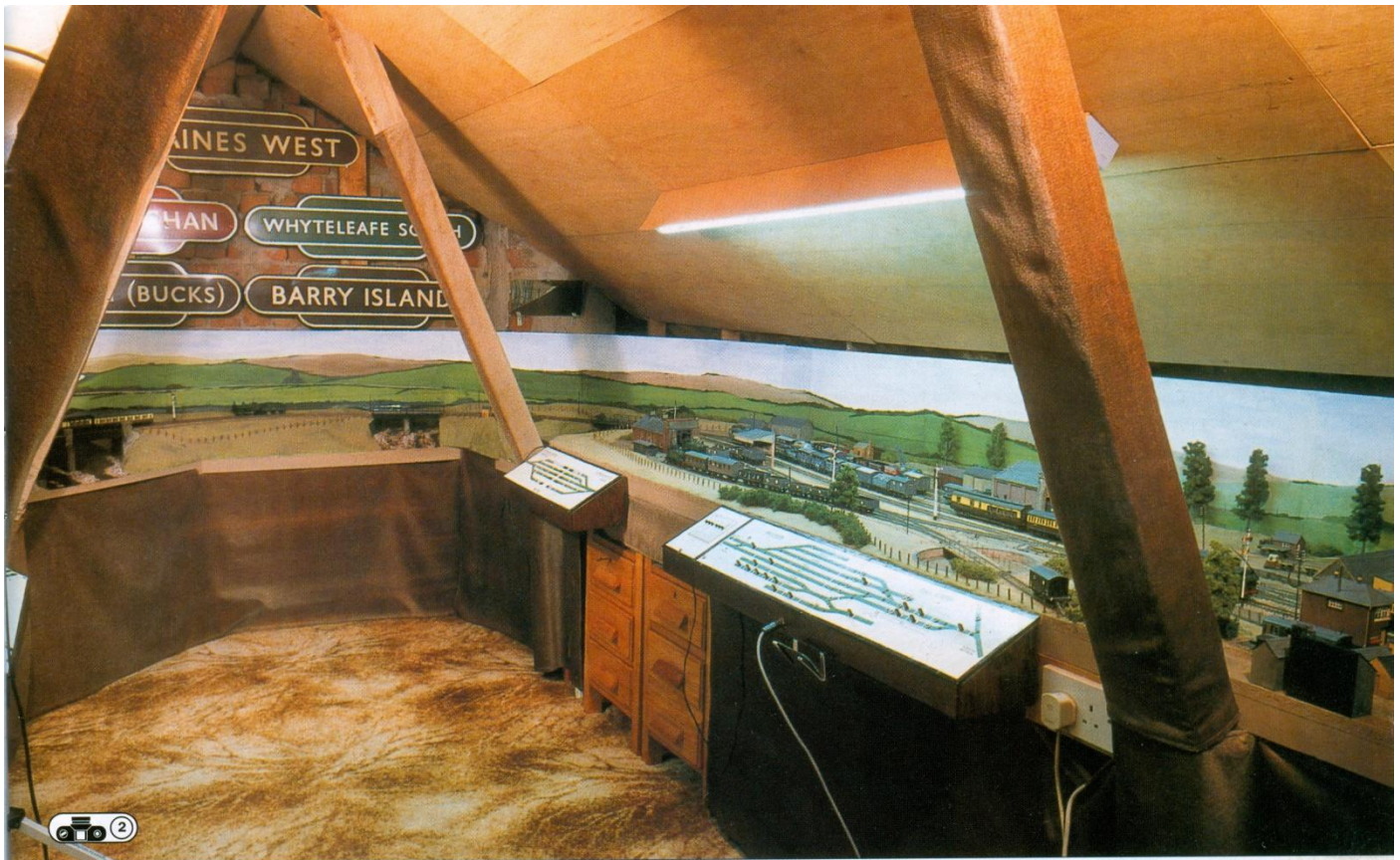


**Photography by STEVE FLINT**

my resolve. Copies of the BR plans were obtained and it was found that a scale-length version of Bala Junction in 'OO' gauge would fit in neatly along one side of the loft, in an area some 22ft by 3ft. The original intention was just to have 'hidden sidings'







Above: The roof of the loft is lined and the floor is boarded and carpeted for comfort and cleanliness. In particular, the lining of the roof is necessary to eliminate draughts and prevent tile dust contamination.

Left: A general view of Bala with the half-cab 0-6-0PT No. 2756 (a Hornby model) departing for Bala Junction while the afternoon two-coach auto-train for Wrexham waits in the platform.

Below: The castellated frontage of Bala goods shed was one of those quirks of railway construction which was embellished at the insistence of the local landowner, one Mr Price of Rhiwlas who opposed the coming of the railway. All the real buildings were demolished long ago.

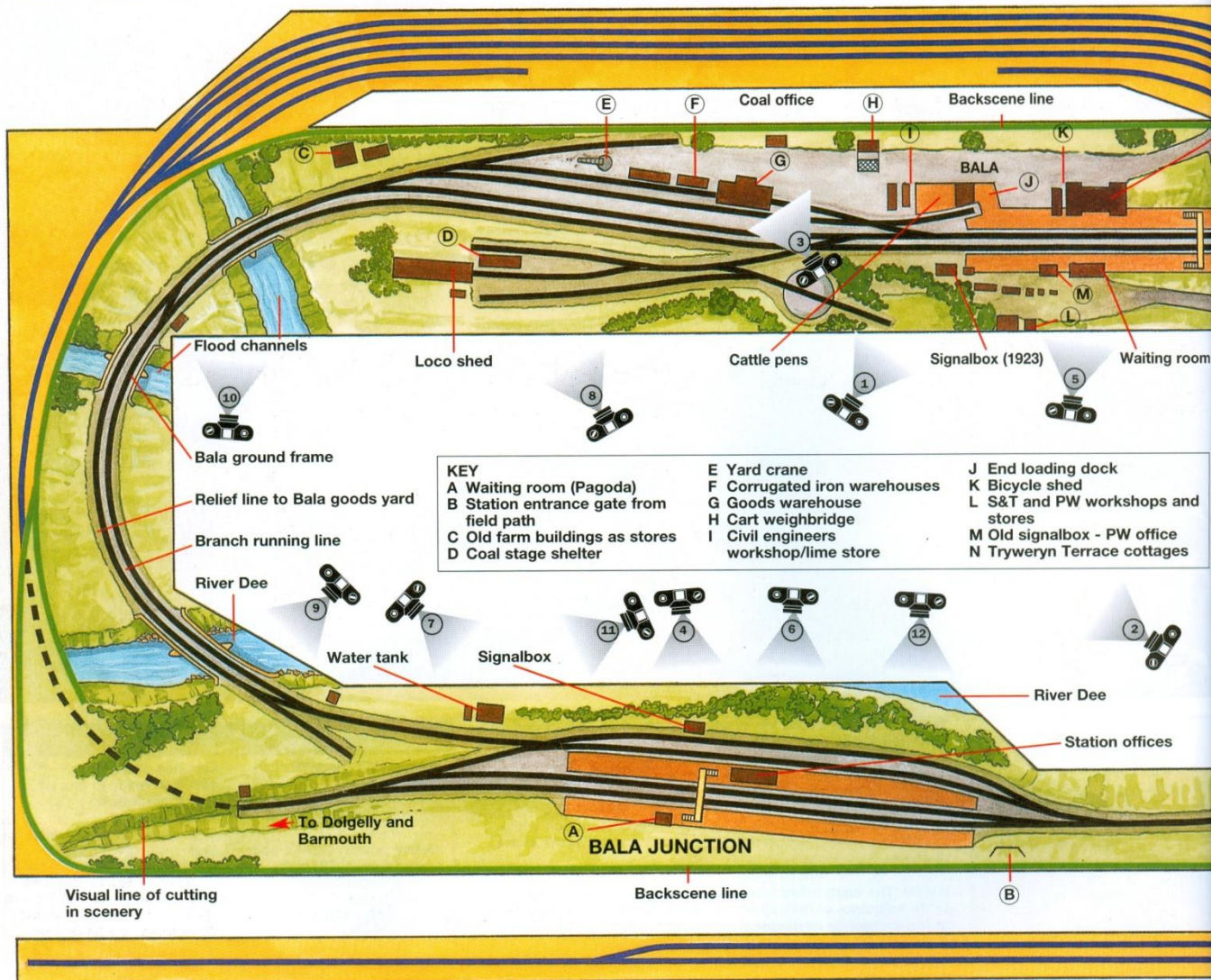
#### FACTFILE: BALA

**Gauge:** 'OO' 4mm:1ft  
**Period:** 1939  
**Inspiration:** GWR rural lines  
**Prototype:** Bala Junction-Bala, Wales  
**Motive power:** GWR steam  
**Age of layout:** 20 years since commencement  
**Location:** loft  
**Size:** 22ft by 12ft approx overall  
**Buildings:** Scratch-built

**Engines and stock:** Modified ready to run, kit and scratch-built.  
**Track:** Peco  
**Signals:** Ratio and scratch-built  
**People and animals:** Mainly 1960/70's Airfix and Merit figures  
**Road Vehicles:** Various plastic kits including Keilcraft and scratch-built







opposite. However, I quickly realised that Bala station and goods yard formed such an integral part of train operations that these, too, had to be included somehow, albeit reduced to some two-thirds of scale length. The hidden sidings ended up more hidden than most, tucked away under the roof eaves, behind the backscenes. This demanded absolute reliability of operation (aided by

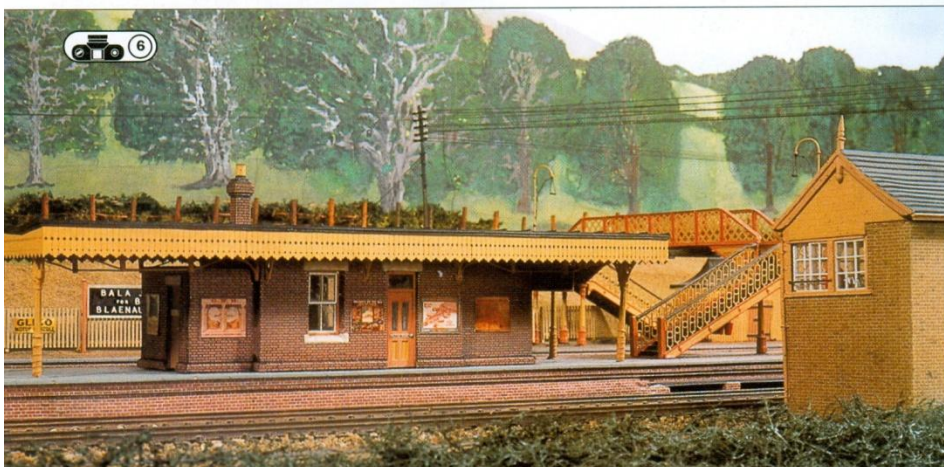
strategically-placed lights and mirrors) as they are almost totally inaccessible. Not the ideal situation, but the only possibility short of buying a mansion to suit!

The main baseboards are conventional 19mm chipboard on 2in by 1in timber, sitting on subframes which are both supported by, and strengthen, the house roof structure. This is one

layout that certainly never leaves home - I would estimate that if it were ever necessary, it would take about three weeks to get it all out!

At the time when construction began (1981-2), SMP scale bullhead track was newly available, and I experimented with this extensively before deciding that despite its marvellous appearance, it was perhaps not robust enough to withstand an intended life of some 25-30 years being pounded by some of my older, heavier rolling stock. Also the prospect of hand-building some 20 sets of pointwork to match well and operate reliably did not appeal at all! So, Peco (code 100) it had to be, disguised as far as possible with heavy ballasting and rust-painted rail sides. After 16 years intensive use to date, this has proved to be totally trouble-free. Only a three-way point and two single-slips needed to be custom-built. Of course, just a few months after final completion, the 'code 75' range became available (together with a single-slip) but that's the way it goes!

All the trackwork was laid by gluing only (with budgie-grit ballast) onto 2mm thick strips of polystyrene wall-lining, in order to reduce noise. This was only partially successful, but by filing



The station buildings at Bala Junction are all faithful copies of structures which have long gone. I used Slaters embossed brick material and waited 11 years for Chris to get round to having the valancing etched - the last item to complete the layout. The footbridge is a Scalelink etched-brass kit.

**EXPERT TIP**

MY plastic telegraph poles looked very bare without wires! I used fine black cotton, hung taut, looped once around each post crosspiece and secured with a small dab of glue. With luck, the wires will lengthen slightly, and thus sag realistically in time. If not, they remain taut, or worse, tend to pull the posts over at strange angles - it all depends on the moisture content of the cotton? Do not let the cat near the layout!





**TECHNIQUES: BUILDINGS**

The larger building shells are constructed of high-quality 3mm plywood, the small huts of 2mm artist's mounting board, well braced internally. Door and window openings are cut oversize to allow for the thickness of cladding, which is applied to all openings as well as the outside faces (and inside, too, where it will show, as on the engine shed or goods shed). The cladding is Slaters embossed plastic brick or stone sheet as appropriate. Evo-Stik impact adhesive is used very sparingly as it will soften the plastic. The roofing slates are strips of styrene sheet with the vertical divisions scribed on, laid in overlapping horizontal rows and finished with capping strips at the ridge. Window frames and doors are built using various sizes of Plasticard section assembled onto a piece of clear sheet, painted then cut to size to fit into the wall openings from the inside. Brass pinheads make good doorknobs!

**EXPERT TIP**

MAKE sure that cladding pieces on buildings butt neatly and squarely at all corners, with brick courses lining up well. Trim carefully then seal up the joint with PlasticWeld. 'Nick' around the corners with a craft knife to continue the mortar lines for each row of bricks.

Above: A lightweight '74XX' 0-6-0PT (Westward kit) stands at Bala Junction with a pair of the authentic GWR wooden post signals in the foreground. These have genuine wooden posts and are operated by relays.

Below: All the buildings at Bala were distinctive and individual designs unique to the town. The Main station building uses Superquick stone paper on a card structure with Ratio and Mikes Models details.





## MODEL RAIL

### EXPERT TIP

**BEFORE** fitting doors and windows, roughly brush over the whole cladding area with matt black or grey paint, then wipe off immediately with a tissue to enhance the embossed pattern and produce a pleasant weathered effect.

v-notches at scale rail-joint positions and fitting all stock with metal wheels, a delightful 'clickety-clicking' was produced as the trains moved. I also converted the older locomotives with their 'lawn mower' motor noises to quieter, more modern units.

I was intrigued that despite the lavish signalling at Bala Junction (19 working arms on 13 posts), one of the most frequent movements - the branch engine backing down onto its train, having run round - had to be controlled by means of a green flag held aloft from the signalbox window! Also that the outwardly more complex layout at Bala needed only seven full-size signal arms. The model versions consist of various configurations of Ratio kits for the multi-arm structures, with the plain signals hand-constructed using genuine wooden (oak) tapered posts. All are activated from below by miniature relays with extension arms, the contact sets of which are used to provide full prototypical interlocking (with similar relays controlling the point motors). This is normally a joy to operate, but can be a mixed blessing when, after an absence of some weeks, I might sit for several minutes, totally baffled as to why a particular signal will not clear. The Green Flag is similarly activated by a relay under the signalbox floor, but sometimes fails to pop out when the signalman is enjoying his tea!

The master controller (thought to have come from a Spitfire!) comprises a chunky rheostat marked 'WAD' and was obtained in about 1955 from one of those wonderful surplus stores in the Tottenham Court Road. None of your fancy electronics here! (Keith has built 'interesting' control systems for his earlier layouts. When I first met him, as a teenager, he had an automated control system operated by a rotating drum with contacts - like the mechanism from a fairground organ - which even started and stopped the trains at stations automatically). Multicore cables (up to 60ft in length) and relays came courtesy of my employer, Philips, who decided to install a new electronic telephone exchange at just the right time.

A general view of remote and evocative Bala Junction with the '74xx' 0-6-0PT No. 7411 on a local to Bala and scratchbuilt 'Bulldog' 4-4-0 No. 3454 Skylark at the platforms.



### EXPERT TIP

**ALWAYS** try to keep the electrical system as simple and rugged as possible, for reliability and ease of operation.

**Above:** Bala engine shed with the Hornby 0-6-0PT and the 'Metro' 2-4-0T on shed. Locomotive coal has been delivered to the corrugated iron shelter in the background.

**Right:** A K's Dean goods 0-6-0 No. 2573 crosses the river Dee as it approaches Bala Junction station from the Bala branch. The 'water' is gloss varnish over a painted riverbed base.

## TECHNIQUES: ELECTRICAL CONTROL

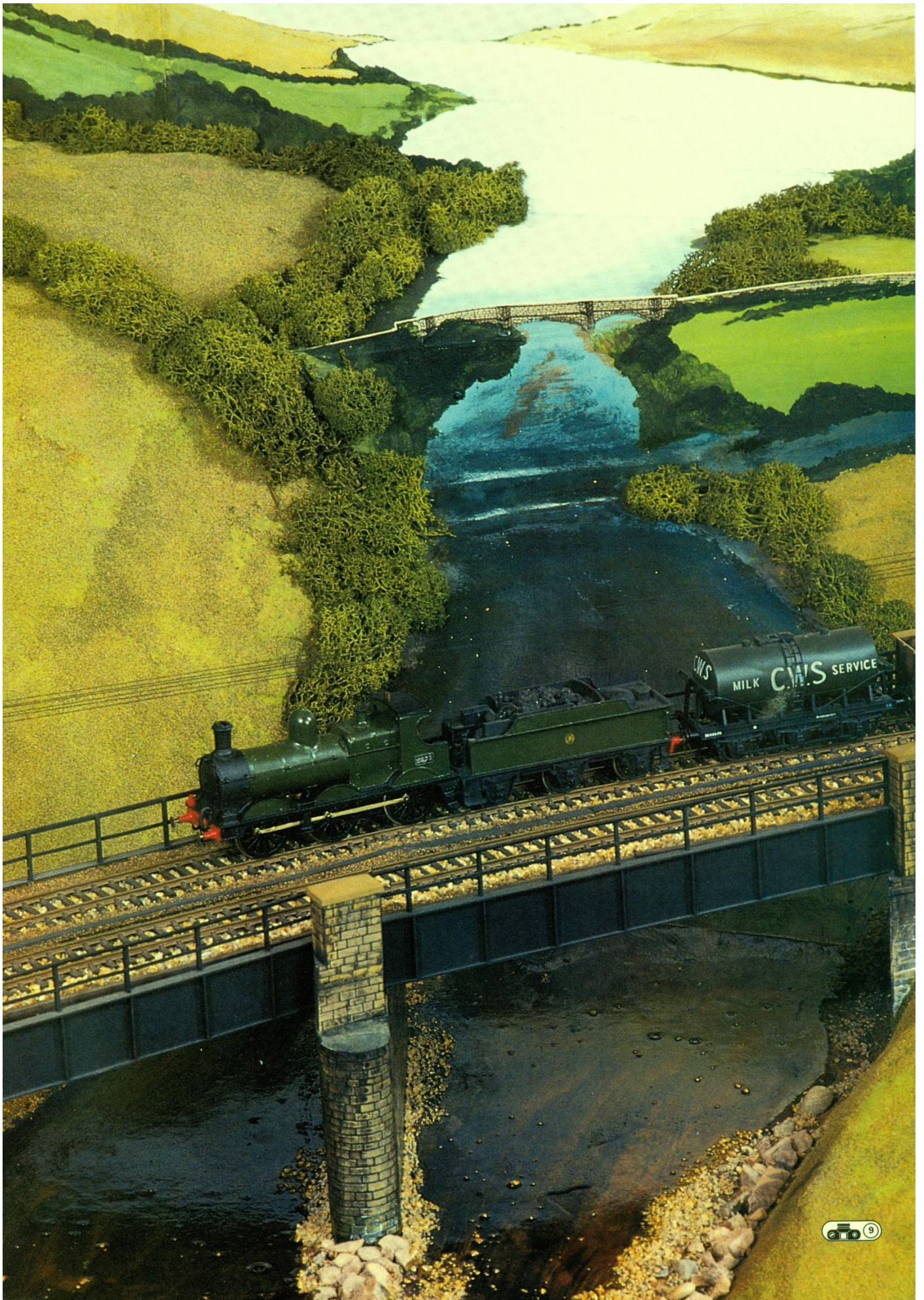
All the necessary power supplies - transformers, rectifiers, overload protection - are mounted together in one wooden case, hidden beneath the layout. This means only one mains feeder cable is needed to power the whole layout - an important safety consideration. Multicore cables then feed all low-voltage supplies to four separate 'control boxes' (Bala, Bala Junction, main and branch hidden sidings). These contain the section switches, point-motor 'contactor studs', signal switches and indicator lights, all mounted in track diagrams for ease of operation. These boxes also contain the inter-locking relays, and have hinged lids for access. From here, individual colour-coded wires bound together in bundles lead to each component on the layout. The 'driving' module is a hand-held roving unit on the end of a long multicore lead, containing just power and 'brake' rheostats, a reversing switch and indicator lamp. This enables locomotives to be operated from anywhere in the loft - very useful when shunting, and providing an infinite variety of viewpoints from which to soak up the atmosphere!

Having completed the operational side of things, the next major job was scenery construction. I was again fortunate to obtain some fine-grain expanded

polystyrene blocks, approximately 2ft by 1ft by 4in thick, from a local company for the base layer. Each section was roughly shaped to fit with a hacksaw then contoured using a heated resistance-wire contraption - outdoors on a breezy day because of the fumes. Once installed, the whole was skimmed











with a thin coat of stiff Polyfill, brushed out smooth using a well-wetted sable paintbrush. When properly dry, the overall effect was very reminiscent of those atmospheric 'Bala branch, Winter 1947' type photographs, and I was almost inspired to try building a working snowplough, scatter some washing powder liberally over the tracks and leave this dramatic diorama just as it was! Convention prevailed however. Everything was covered in green undercoat, then the usual flock powders and lichens were added. The polystyrene construction has proved totally trouble-free over many years, is easy to modify or reshape if required and is resilient to the odd dropped hammer or misplaced fist!

Construction of some 30-odd buildings followed, ranging from humble platelayers huts to that wonderful castellated facade on Bala goods shed,

and the supremely ugly corrugated iron coaling stage shelter situated almost opposite. This phase was greatly assisted by an appeal in the model press (1988) resulting in my meagre collection of photographs and sketches being augmented by some 300 new prints (a quite incredible response for just two stations) and a complete set of structure drawings, the study of which was an education in itself. However, despite such excellent coverage there were one or two gaps where photographers never seemed to venture (for instance, to the rear, or south-west, side of Bala goods shed) and these areas remain rather bare on the final model.

Next, the backscene was tackled - all 65ft of it! Frantic and non-too-effective recall of school art classes long ago resulted in 3ft sections executed in poster colour on cartridge paper which were pasted onto braced hardboard just like wallpaper. My initial enthusiasm waned somewhat after about 20ft or so! By and large, installation of the backscene provided an amazing transformation by giving much greater depth to the model, but I found that it could sometimes easily become overpowering in itself. There are some sections of which, frankly, I am quite ashamed, and these may be reworked in the future.

Mainly for operational reasons, the period was set at circa-1939 as I already had a copy of the working timetable for the summer service that year. In practice, I doubt that the infrastructure changed all that much from about 1930 until around 1960, when the usual flurry of repainting and resignalling preceded imminent closure! Also, I do tend to take liberties with rolling stock which initially came from previous layouts, and includes such gems as a GWR diesel railcar (well, one such was tried on the line circa 1940, but reputedly clouted all the platform edges!) My version is not a familiar Lima model, but started life in 1957 as a Hornby-Dublo D80xx diesel (childhood Christmas present) and progressed through various adolescent incarnations as SR electric locomotive 20003 and a Furness Railway

steam railmotor before settling down as W21 (after conversion from three-rail to two-rail operation in about 1968. It sounds just like the prototype!

The Mainline plastic era provided a 'Manor' 4-6-0 (I know it is wrong for 1939, but I just had to have one), 'Mogul', Collett goods 0-6-0 and various pannier tanks. I still use my K's Dean Goods 0-6-0, '87xx' 0-6-0PT and '58xx' 0-4-2T, all dating from 1961. The latter (always the best of the bunch) still has its original motor.

A large 'Metro' tank and '74xx' pannier are Wills kits, with a saddle-tank to follow. One essential locomotive not available in the ready-to-run or easy-to-build kit market was a 'Bulldog' 4-4-0. Not wanting to repeat the early experiences of *Model Rail's* editor with the old K's kit which had a characteristic sideways gait all of its own on curves and pointwork, I put this off for many years. Then, experiments with a 'semi-articulated' arrangement powered by a Hornby tender-drive unit proved encouraging. Spurred on also by lessons in boiler construction from old hand Joe Moss, both a 'Bulldog' and a 'Duke' (almost identical mechanically) eventually materialised in parallel. They contain over 500 separate fabricated parts each and run like a dream, but never again! (or maybe just once more - I would like an 'Aberdare').

The coaches and wagons are a similar mixture of ready-to-run, kits and scratch-build, again spanning an age-range from 1955 to the present. The engines have mainly scale screw-couplings, the wagons magnetic three-links, and the carriages Peco Simplex with added upright pins to unite with the link-fitted stock. I would love to use the Jackson system, but conversion would involve making and fitting some 150 sets of couplings!

All in all, the last 20 years spent re-creating Bala have encapsulated for me all the varied aspects of our hobby which make it so absorbing; the woodwork, mechanical and electrical engineering, building construction, artwork, and ongoing operation - there's never a dull moment!

### EXPERT TIP

**FILE** V-notches in rail tops approx 1mm wide at 9in intervals. Fit metal wheels to as much stock as possible, and you'll be amazed at the realistic sound effects!

### KEITH JAGGERS

Keith Jagers (52) is a graduate in electronic engineering of the University of Wales, Bangor. Currently working on development of new silicon-chip products for a well-known multi-national electronics company, he lives in Cheshire.







Above: Almost a Mainline takeover at Bala Junction with 'siphon vans' and a '2251' 0-6-0 from the same manufacturer. The recessed door Collett-era coach is a scratch-built model.

Left: No. 7411 has left Bala and crosses one of the two flood channels with its train for Bala Junction.

Below: The west end of Bala Junction. The 'Bulldog' 4-4-0 No. 3454 *Skyhawk* departs with a 'main line' train for Dolgellau and Barmouth as the '58XX' 0-4-2T arrives with the local from Bala. Some of my older models date from an earlier layout based on an imaginary extension of the Cardigan branch.

**EXPERT TIP**

EVEN a simple representation of point rodding from a signalbox can look marvellous! For quick and cheap mass-production of the bearer blocks, I used sections of Code 100 flat bottom rail with slots sawn in the top using a tool made up from several bits of Eclipse hacksaw blade and brass strip spacers (pitch approx 1mm, cut width and depth approx 0.5mm). A piece of wire is then soldered carefully along the top of the 'rail', across the top of the slots, and the bearers glued down at approx 30mm intervals on the layout. 13thou (approx) diameter spring steel wire (obtainable in 100-metre coils for a few pounds) is fed through the holes and cut off to length. Commercial etchings are readily available for the cranks. Paint the lot with a neutral grey-brown mix after gluing in place on the layout.

