An East Anglian Club layout
Abbotsford

Tony Sparks describes the layout of the Bury St Edmunds MRC
Photographs by Brian Monaghan

It is probably true to say that any club layout that has been ripped up and re-started over a period of years matures with age, and none more so than our little effort. The Club celebrates 30 years of existence next year, and in this time there have been three 'Abbotsfords', each being roughly the same format.

The first started in half of a wooden hut, the other side being occupied by the local Scouts; whether they grew tired of the continual sawing noises, or just had the call of the Great Outdoors, we don't know, but they left, and Abbotsford number two was born, being rebuilt to fill the whole of the hut. This arrangement lasted for many years until bulldozers told us we were in the middle of a redevelopment. Pleas for assistance in the local Press bore fruit when a farmer, an enthusiast himself, offered us a disused piggy. Visions of club nights with shovels and hoes were dispelled when we saw our new home, and work started again on Abbotsford Mk. III. Having members in the building trade a new floor was fitted, with water and electricity laid on, and thus started the layout you are about to read of. None of the description following would have been possible without the timely assistance of our landlord. Thank you, for your help and forbearance.

General description

Abbotsford as a whole represents an East Anglian railway system at the time when diesels had not obtained a stranglehold in the area. The scale is 'OO' in a space of 32ft. × 22ft. and the accent is on operation. Because of this, we make no pretences to being a super-scale 'count-every-rivet' layout, but purely to achieving a prototypical feel to the system, bearing in mind we run to a sequence-type timetable using up 12 operators. It, therefore, follows that no one feature stands out alone, and all items are built or placed to form the global effect. The whole layout, with the exception of two stations, which are removable for exhibition work, is built into the clubroom.

To assist the reader in finding his way around the system, we have shown in addition to the usual track plan, a key plan as depicted in Fig 1.

The line starts at Abbotsford, a terminus boasting seven platforms with an overall roof now under construction, carriage sidings, a three road motive power depot capable of holding 12 locos, and fitted with the usual coaling plant, turntable and so forth. The main station building is based on Bury St. Edmunds, with its distinctive towers, but unlike the prototype we have put both towers on the one elevation to balance the model in its own...
location. The original station had its towers on opposite sides of the tracks being elevated above street level and parallel to it, whereas Abbotsford is at street level. The model is 25 years old, and comes from the Abbotsford Mk. I layout. Freight is dealt with in a separate yard of six roads, with a headshunt and two departure sidings. There is also an oil depot to one side. The reception road to this complex is separated from passenger arrivals, splitting off the up main line before the tunnel approach to the station. This tends to reduce any operational bottlenecks when freight arrives at busy times with an express hard on their heels.

Leaving Abbotsford the line dives into a tunnel, reappearing at the freight junction previously mentioned, and climbing thereafter on an even grade to the summit at the other end of the clubroom. The title, Abbotsford, by the way, bears a coincidental likeness to the name of the local ale, brewed by Greene King.

After the summit, the line swings left entering the flat uplands and Higham Junction. Operationally, this station is very similar to Haughley Junction on BR, where the Bury St. Edmunds line and the erstwhile Mid-Suffolk Light Railway left the main London-Norwich line. Our junction has two through roads, a centre bi-directional road for connection workings, and a branch platform. Short spurts at the north and south end hold looms for traffic spilling here, but there is also a small loco shed for branch workings. A couple of transfer sidings are provided for pick-up freight meeting through freights. Curiously, Higham Junction buildings are of the Midland Railway Settle and Carlisle pattern, partly because we have members with Derby tendencies, and partly because its always been like that! Nevertheless they fit in well and give the station its country impression.

Departure from Higham on the main line takes the train left over a high viaduct, and after a while hurries through Mossy Green station where only one train a day in each direction stops. Mossy Green is typical of many small East Anglian stations, and has a small bay platform for a shuttle service to Framlingham. This latter station has its main services from Higham Junction, thus forming a triangle, with the main line on the base, and Framlingham at its apex, but more of this anon. Returning to Mossy Green, it can be seen that there are no freight facilities. Incidentally, it is interesting to note that Mossy Green has been on Abbotsford’s Mk’s I, II and III in virtually the same situation, being perched on top of a high embankment.

Continuing on, our train is now on a slight falling gradient which increases as the journey progresses nearer the terminus Oldhaven. The run is quite long, and this means that any train in the opposite direction leaving Oldhaven has its work cut out climbing the bank, especially when hauling eight or nine coaches. The approach to this station is through a long tunnel, over a river bridge, and then past the site of the dock and boat-train platform. As happens on the prototype, Oldhaven has suffered many design changes due to traffic requirements, and there have been at least three variations in the approach area on this present layout. This section is still known as Oldhaven (Marine) although the platform and dock are long gone; and the fact that there are no satisfactory ship models in this scale, unless one wishes to pay the earth for them, led to the construction of carriage sidings on the site.

This continual change has a prototypical side-effect in that there are new areas where a line curves to avoid a non-existent building, or track layouts are different to what they would have been, had a start been made from scratch.

Passing Oldhaven (Marine), the freight yard of five roads and an oil depot is on our right, and the aforementioned coach stabling on the left, being the main area for storage of passenger rakes. The station has a motive power depot capable of holding nine locos plus a diesel standage, and possesses an inclined coaling road and turntable. The terminus proper, known as Oldhaven (Town) is of the early BR ‘concrete period’, and six platforms fulfill the passengers’ requirements.

To describe the secondary main line route, one has to return to Higham Junction, the double track swinging away to the right, parallel to the departing branch line for a short distance. On a falling grade, the line passes under the branch, and continues thus for some way, before entering a short tunnel. On emerging, the terminus of Felstowe is reached after curving sharply to the right. This station is loosely based on Felstowe (Town), hence the name similarity, being one of the removable baseboard areas alluded to earlier, and although being part of the original layout ‘overall plan’, was constructed as a ‘quickie’.

Ex Great Eastern 0-6-0 arrives at Mossy Green with a local train.

Class E4 2-4-0 leaves Higham Junction. Note lattice post signals.
taking five weeks from start to finish because of an impending exhibition. (This time includes the construction of fiddle yard and scenic approach to it.) Felsowe has four platform faces, a small goods and coal yard, and a two road loco shed with turntable.

The branch line which leaves Higham Junction is single track and although it is on an initial rising gradient, flattens out for the run to Framlingham joining the line from Mossy Green just before entering the station. The terminus itself, a scale model of the prototype, is under construction at the time of writing. With the Editor’s permission, this could be the subject of a future article when complete. Suffice it to say, there is considerable research, photography and surveying work being undertaken for this project, hopefully for a worthwhile exhibition layout, this being the second removable area of the line. If any reader has late Group 1 early BR information and especially photographs, we would be most interested to hear from him. As a footnote, the siting of Framlingham on Abbotsford Mk. III replaces the location of Aldeburgh from Abbotsford Mk. II. Aldeburgh was our earlier exhibition layout, winning more prizes than we care to admit, and now resides at the Aldeburgh Museum Trust.

Construction
A brief description of materials used follows, although we do not claim originality in any of the methods employed, except in scenic techniques. Baseboards are of chipboard on a framework of varying timber sizes, but mainly 2in. x 1in. and 3in. x 2in. All trackwork is PECO Streamline, points being of 9ft. radius laid on fine micro-sieved sand which has been sprinkled on to a strip of wet gloss paint. When the track is in position, it is lightly pinned down using household pins, until the paint sets holding the sand and sleepers in place, whereupon the pins are cut. This method has given us no trouble, despite greatly varying temperatures in the clubroom.

Scenery is modelled in ‘Keens Cement’ (as used in fireplaces, etc.) on a base of offcut chipboard or whatever is available, roughly built up to the desired profile of the ground. Keens Cement is cheaper than plaster, is lighter and will not crack, but is difficult to get hold of. When nearly dry, hessian is dabbed over the surface, giving a textured finish. Fencing and telegraph poles are fixed down while the cement is wet, unless you forget, and then it is drilled! Finally, the usual flock powders and lichen are applied over a covering of wet gloss green paint. Our method is to
ABOVE: BR standard class 9F hauling a 20-wagon oil train, en route for Oldhaven refinery.

BELOW: The down ‘Broadman’ leaves Abbotsford behind the B17, while an ROD 2-8-0 brings the ‘fish’ into the yard.

fill a ‘puffer’ bottle with fine flock in red, yellow and black, as well as green, the bottle having a plastic tube leading from the lid. On squeezing the bottle, a mixture of colour is ‘sprayed’ on to the wet base paint, the whole being lightly oversprayed with a variety of aerosol’s binding it together. No fluorescent green scenery for us! This overspraying by aerosol includes all trackwork, the only protection being small pieces of Scotch tape fixed temporarily over the point blades. The final touches used by our resident scenic expert are his Trade Secret, and he proclaims ‘It’s not the materials you use, but the way you do it’.

Buildings and other features are a mixture of scratchbuilt and kitbuilt, but any kits used will not be assembled as per instructions, but ‘bashed’ about to disguise them, and to add variation to the scene. Similarly, bridges are an assortment of commercial and other parts, and care has been taken to avoid any structural impossibilities!

Control

Each control panel is similar in appearance and design, being made of Formica on a 3in. x 1in. timber frame, using the usual switches and buttons on a diagrammatic track plan painted on in key colours using masking tape. Adequate section switches are provided, especially at loco depots, and platforms have at least two sections to allow station pilot working. Point control is by the electric pencil method via studs on the diagram to the H. &
M. motors, using a separate supply of 20v. The panels also control movement of the electrically-operated turntables.

The entry section to each panel is controlled by a ‘push-to-make’ button, and not a switch as elsewhere, obviating the possibility of a section being left on, allowing a train to run over between panels causing havoc. Lights are provided at entry and exit points on each panel to remind operators of trains blocking the route, and to clear the obstruction before sending a further train along. It may sound complicated electrically, but we do not use any relays or other gear in the layout, except at the double slip to give polarity to the correct road. The entry/exit lights are simply wired using a 16v AC supply to the rails at a short break in one rail. With the loco at a stand, the current passes through the motor windings, illuminating two bulbs, one to each panel. Wherever possible, handover sections are in tunnel, otherwise they are positioned at the Outer Home signal.

Control panels are situated at:
1. Abbotsford passenger.
2. Abbotsford goods.
3. Abbotsford MPD.
4. Higham Up line.
5. Higham Down line.
6. Higham Branch line.
7. Oldhaven (Marine) goods.
8. Oldhaven (Marine) passenger.
9. Oldhaven (Town) and MPD.
10. Felstowe cab 1.
11. Felstowe cab 2.
12. Framlington.

Panel 1 can give panel 2 control to drive a freight out of the yard and along the main line as far as panel 5 by the use of a DPDT switch. At Higham Junction, the centre bi-directional road is switchable via a DPDT to either control 4 or 5. Thought is at present being given to the provision of an extra local control panel for the Mossy Green branch line area.

It would be worth a brief mention on the mystery of electrics at this point, since the majority of modellers, on seeing more than a dozen wires under a panel, tend to go into a state of apoplexy! We have up to 80 ways departing our control panels, which does tend to confuse the uninitiated. Basically, the system is very simple, employing a separate input to each controller, thus avoiding any stray cross currents. These controllers are standard H. & M. panel mounting ‘CU’ units, in conjunction with matching coil cut-outs. These units are extremely reliable, and to date replacement has not been necessary, and the few repairs needed are easy to carry out, such as their simplicity. This fact was, therefore, a very strong point in the favour of status quo when some thought was given to the installation of transistorised units. We feel that on a large layout, where maintenance is a primary factor, the further encumbrance of electronic gear would be too much. With careful use, a standard resistance controller gives us more definite control over locos, particularly when shunting.

On emerging from the controller, the feed wire is looped as a common feed to all section switches, whilst the other wire runs straight to the track forming a common return to all sections in the control area. If there are 25 switches on the panel, then there are 25 wires running out, one to each section.

For turnouts, there are two wires feeding each location, one to each coil on the point motors giving ‘normal’ and ‘reverse’ positions. Each motor is looped together with a common return back to the panel. Thus with 20 turnouts on a panel, one will need 41 wires. Adding these feeds to others covering 12v DC and 20v AC for inputs, together with lamp circuits, it can be seen that the total number of wires can reach quite a sum, there being about 75 in our ‘typical’ example. This does look complicated, but when the novice is reminded that basically this is only two circuits split many ways, he begins to see the light! The main rule we try and adhere to is to colour-code all wires, to make a record of these codes for easy fault-finding, and to make neat harnesses or looms of wires using Scotch tape.

At the termination of each running session, any faults occurring are put in a little black book, and rectified before the next session.

Abbotsford in Colour

The ROD 2-8-0 with fish train passes an express on the bank from Oldhaven.

to be continued
ABOVE LEFT: The impressive facade of Abbotsford's station buildings. An overall roof is intended eventually. ABOVE RIGHT: The J39 approaches Oldhaven with empties, while an oil train from Higham crosses the viaduct. In the background, a Brush Type 2 leaves Abbotsford. BELOW: The busy approach to Abbotsford.