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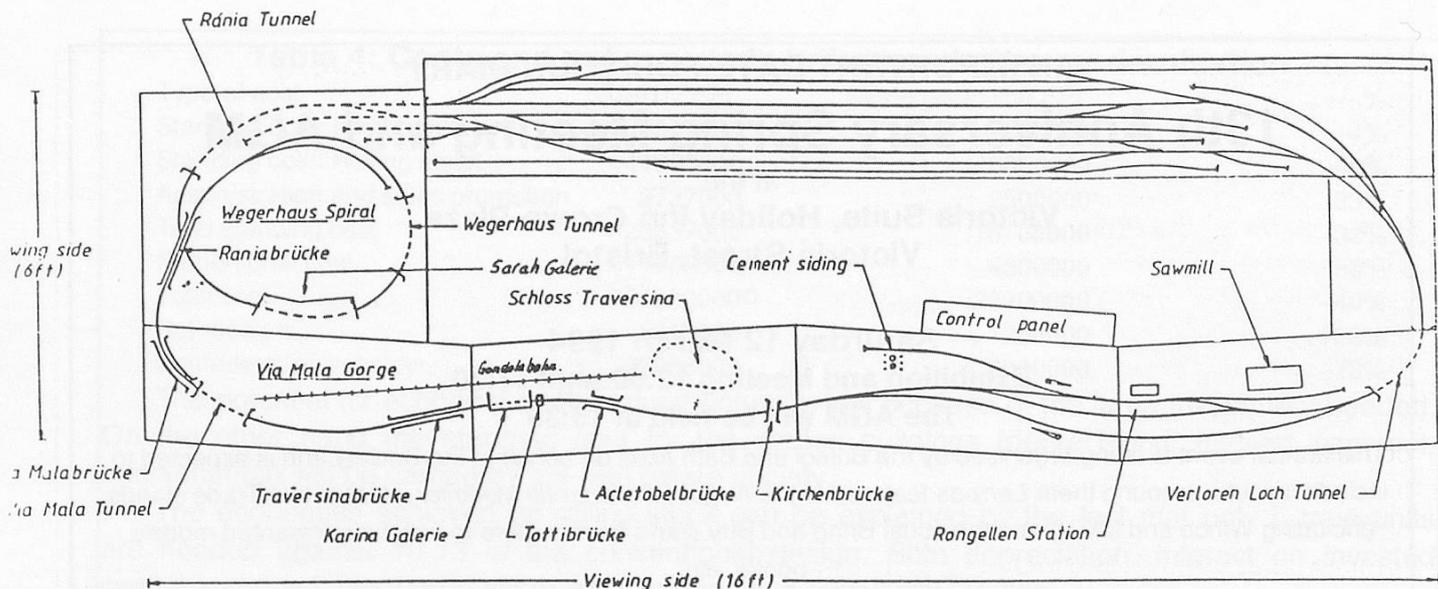
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Operating Via Mala

by Mike Polglaze

Operation on Via Mala is carried out using a sequence timetable to represent a day's train operation and takes about 1½ hours to work through. As the line was never built, there was no prototype train service to work from but the Swiss PTT run a postbus service between Chur/Thuisis and Bellinzona, as well as destinations in between and this service formed the basis of the timetable, which was built up on a train graph.

Because trains on single lines must cross at stations, whereas postbuses don't have to, some subtle changes were needed to the timings, but the overall times were not very different. The though services were plotted first and, like the postbuses, make only limited stops. One PTT service carries the name *San Bernardino Express* and this has been transferred to the appropriate service which is run with Pullman stock. Next came the Regionalzugs to and from Thusis, which run to Andeer, Splügen and San Bernardino. Other local services run out of Bellinzona as far as San Bernardino, but were omitted as they have no bearing on the northern end of the line, where the model is situated.

The Timetable

Running times were worked out from the postbus times, using the route nearest to the proposed railway. When Route N1 was built in the 1960s, it followed the line of *die Bernhardsbahn* fairly closely, which means it gives a

good indication of how the trains may have run. In some cases the postbus goes over the old road, eg, between Hinterrhein and San Bernardino, with some services using the 5 km tunnel whilst others climb up the old road to go over the pass. In such a case the tunnel times were used. However, there is an exception, when the times for the Thusis - Via Mala - Zillis section were worked out the postbus times over the old road were used for Regionalzugs whereas the new road times were taken for the Schnellzugs. Otherwise Schnellzugs and Regionalzugs use the same running times, whereas Guterzugs are allowed one or two minutes extra, depending on the length and/or grade of the section involved.

Finally, freight trains were added in. Here was a potential problem, the PTT doesn't run a freight service! All was not lost, some time ago the RhB kindly sent me a graph of all their services, so the Albula graph was used as the basis for the pattern and times of freight traffic. In addition to the through freights there is a daily pick-up in each direction, which stops at most stations to shunt. There are also cement trains, some of which attach and detach en route. Finally there are the stone trains which have been worked into suitable paths in the timetable.

The passenger services are based on the Summer 1985 timetable, with the freight services worked into them. when looking through

the RhB pages in the Kursbuch, I noted that all lines have one constant figure in each train number. Albula trains had a 5, Arosa 6, Tirano 4 etc. The only number not so used was 9, so it was appropriated for the *Bernhardinbahn* services.

Once the graph was complete, the next task was to extract the Rongellen times and work out a platforming diagram. The RhB and, I imagine, other Swiss single track railways have very definite rules about which lines trains should use at crossing stations. In the UK at crossing stations we stick to the Up and Down, run on the left rule, but the Swiss do not. They have low platforms and in many cases passengers must walk across tracks to reach or leave their trains. It is not much fun getting out of a train on Gleis 3 at the same time as another is hurtling through on Gleis 2!

It might be worth quoting some of the relevant instructions:

- a) When two passenger trains are due to cross and both are due to stop, the first train to arrive must do so on the line nearest the station building. (*Note. At most stations the nearest line also serves the goods shed so perhaps this should read the nearest running line.*)
- b) When a passenger and freight train are due to cross and the passenger train is booked to stop, it must be received on the

Via Mala Train Sequence

Northbound

| Train | To | Stops | Remarks |
|--------|-----|---------------------|-------------------------------------|
| G4901 | Lq | None | |
| R1903 | Th | All | |
| R1909 | Th | All | |
| S905 | Ch | Gro Mes SaB Spl And | |
| G41907 | Pf | None | Stone |
| G4907 | Lq | None | |
| S911 | Ch | Mes SaB Spl And Ron | |
| R1919 | Th | All | |
| R1921 | Ron | All | |
| G5917 | Th | All | 5-10 min, except Med Suf Bbg Gwk |
| R1925 | Th | All | |
| G4923 | Lq | None | |
| R1933 | Ron | All | |
| S927 | Ch | Gro Mes SaB And | |
| G5931 | Unt | Hin Ron | 20 mins shunt at each |
| G4929 | Lq | None | |
| R1935 | Th | All | |
| S937 | Ch | Gro Mes SaB Spl And | <i>San Bernardino Express</i> |
| R1943 | Th | All | |
| G4939 | Lq | None | |
| S941 | Ch | Mes SaB Spl And Ron | |

Southbound

| Train | To | Stops | Remarks |
|--------|-----|----------------------------|---|
| G4902 | Bel | None | |
| R1904 | And | All | |
| R1906 | Spl | All | |
| S908 | Bel | And Spl SaB Mes Gro | |
| L21910 | Gwk | None | |
| G5912 | SaB | All | 5-10 min req'd except Weg Gwk Bbg Av Hin |
| R1914 | SaB | All | |
| S916 | Bel | And Spl SaB Mes Gro | <i>San Bernadino Express</i> |
| R1918 | SaB | All | |
| G4922 | Bel | None | |
| G5926 | Mes | Ron Hin | Cement. 30 mins shunt at each |
| S928 | Bel | Ron And Spl SaB Mes | |
| G4930 | Bel | None | |
| R1932 | SaB | All | |
| S934 | Bel | Ans Spl SaB Mes Gro | |
| R1936 | And | All | |
| G49138 | Gwk | All | |
| S940 | Bel | Ron And Spl SaB Mes Gro | |
| G4942 | Bel | None | Cement |
| G4944 | Bel | None | |
| G4948 | Bel | None | |
| S948 | Bel | And Spl SaB Mes Gro | |

| | | | |
|-----|-------------------|-----|---------------|
| And | Andeer | Ron | Röngellen |
| Bbg | Bärenburg | SaB | San Bernadino |
| Bel | Bellinzona | Spl | Splugen |
| Ch | Chiavenna | Suf | Sufers |
| Gro | Grono | Th | Thusis |
| Gwk | Granitwerk Andeer | Unt | Untervaz |
| Hin | Hinterrhein | Weg | Wegerhaus |
| Lq | Landquart | Zil | Zillis |
| Mes | Mesocco | | |

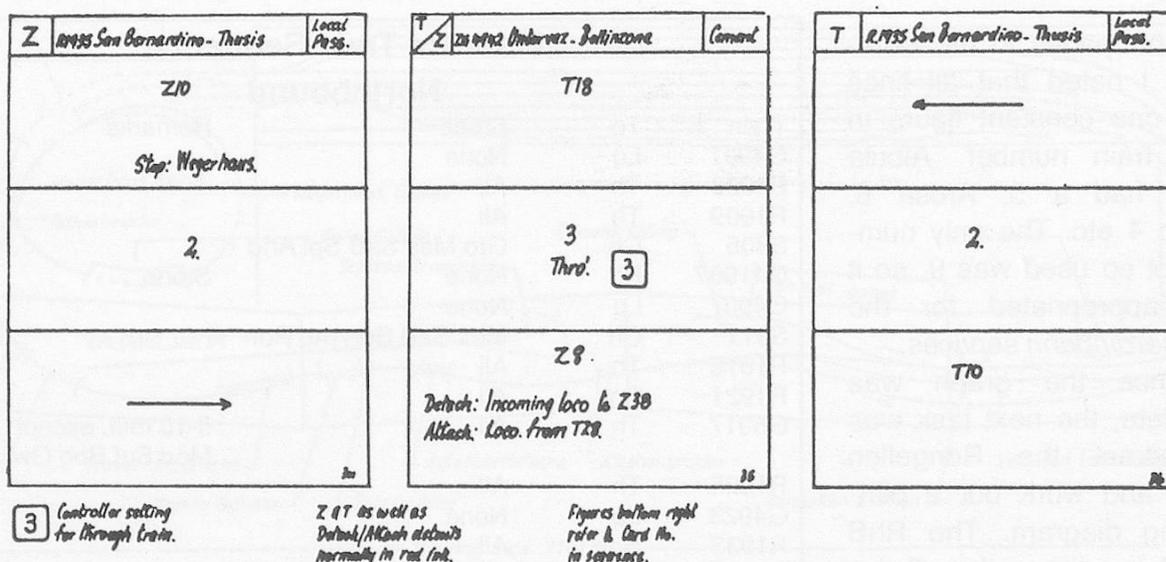


Figure 1 Sequence Cards

- line nearest to the station building.
- c) When two trains are due to arrive at the same time, priority must be given to the one on the up grade and the other held at the home signal until the first train has arrived and come to a stand within the clearance marks.
- d) When a passenger train is booked to run through the station it should normally be routed through the main line. If due to cross another train, it should be held at the Home signal, even on an up grade (see para c) until the other train has arrived and come to a stand within the clearance marks, when it can be given a clear run.*
- e) Trains must not arrive simultaneously, but may depart simultaneously.

I cannot remember where I got this information, but I did not dream it up!

[* Editors note: From personal observation, it appears that the RhB have arranged for all Regionalzugs to arrive a little while before they are scheduled to pass the Glacier and Bernina Expresses so that these can have a clear non-stop run when all is favourable. I experienced one such run on the northbound Bernina, though we did come to a slow crawl when approaching Solis to pass a Guterzug.]

Sequence Cards

Using the above information, a platforming diagram was built up and eventually put into a booklet (*Ein-und Ausfahrten der Züge*), similar to those found at larger Swiss stations. Having done the platforming, the train details were

transferred onto sequence cards. These are in three colours: Red - Schnellzug and Regionalzug; Blue - Through freights; Yellow - Stopping/shunting freights such as pick-ups and some cement trains. Each card is divided into four sections (see Figure 1). The top, smallest one carries the train details, for example **G4922 Landquart - Bellinzona**. In the top left hand corner are red letters, either T or Z or both, which indicates which operator drives the train, of which more anon. The rest of the card is split into three equal sections. The upper one is the hidden sidings departure details, the middle is for Rongellen and the lower is the hidden siding arrival details. The top and bottom boxes also carry instructions if trains are to stop at Wegerhaus, which is a reminder to the operators to switch on the flashing request stop light. When a train is due to cross another the lower box will carry a ---> which tells the operator that the train is to stop and that another card for departure is in the pack. When this card is turned up it will have <--- in the upper (arrival) box. Any special instructions, such as shunting, locomotive moves, etc. are written in the appropriate box in red ink. From time to time subtle changes are made and new cards inserted or old ones removed.

Hidden sidings

These sidings consist of ten through roads, two dead ends used by the railcar, six dead ends for spare locomotives and an area known as the shed. The yard panel is mounted on a



Ge6/6II entering the *Karina Galerie* on its way to Rongellan. Photo C.J.Freezer

bridge over the tracks, with power supplied from two sections on the main panel behind Rongellen station. When facing the yard panel, the sidings on the left are known as "Zillis" whilst those on the right are "Thusis". Two operators work the layout, one covers "Thusis". T on the sequence cards, to Rongellen and is in charge of the station and shunting. The second operator works Rongellen the "Zillis", or the "country end", Z on the sequence cards, which includes Wegerhaus. All through sidings can be worked by either operator, most being split into two sections such as Z3 and T13. Only 9 and 10 - Regionalzugs - are single sections, being quite short.

During a recent rebuild of the sidings, long overdue, all dead-end sidings now have a flashing LED on the "Yard" panel to indicate that the point is set for the dead-end. The idea for this came from watching the panel at Jenbach (ÖBB) in operation. From time to time an incoming train has been known to run into a dead-end siding, usually one of the rail-car ones. This means reversing back out with the rear of the train coming back into public view,

which is somewhat embarrassing! Hopefully, that problem is now cured.

Each train has its own dedicated siding. There are two Schnellzugs, two Regionalzugs and four Guterzugs, one for each direction, two in the case of the Guterzugs. In their case the rear one moves up when the front one goes out, leaving a space for its return. This means that the viewers do not see the same freight every trip out. Yes, they do with passenger trains but coaching stock is more standardised. Each of the above trains has a dedicated locomotive, usually a Ge4/4I on Regionalzugs and Guterzugs with a Ge4/4II or Ge6/6II on Schnellzugs and other trains.

The remaining trains, pick-up, cement, *San Bernardino Express* and the stone have one set of stock but are allocated two locomotives apiece. These sets work in both directions so one locomotive is on the train whilst the second one is in the siding waiting to work. In the case of the pick-ups, the locomotives have other stock attached, such as a coach or the Wegerhaus milk vans which remain with that particular locomotive. The stone train is dif-

| Train | | Arr | Dep | Track | Gross | From | To | Coaching Stock |
|-------|----|------|------|-------|-------|------|-----|----------------|
| No | Ty | | | | | | | |
| 1935 | R | 1715 | 1727 | 2 | 4942 | SaB | Th | KKII |
| 4942 | ZG | | 1727 | 3 | 1935 | Unt | Be1 | |
| 1935 | R | 1715 | 1727 | 2 | | SaB | Th | |
| 4944 | G | | 1756 | 3 | | Lq | Be1 | |
| 937 | S | | 1819 | 3 | | Be1 | Ch | SBE |

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| Loco Wkg | Hid. Sdg. Wkg. | | Instructions, Remarks, etc |
|----------|----------------|-----|---|
| | From | To | |
| | Z9 | - | Stop: Wegerhaus |
| 6/6" | T18 | Z8 | Cement |
| | - | T9 | |
| | T14 | Z4 | Thro. Move Z4 to T14 |
| | Z7 | T17 | "San Bernardino Express" Det: Incoming loco to Z26 Att: Loco from T28 |

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Figure 2 Platforming Book

ferent in that it does not have a dead end at "Zillis", both locos living "on shed". Because the first train leaves "Zillis" the locomotive works out light engine from "Thusis" but when it returns it is trapped, so has to return to the "shed" via an empty road, No 9, through the sidings. The usual occupant of that road is at that time sitting in Rongellen waiting a crossing. Whilst the incoming locomotive is standing on road 9, the spare locomotive comes off "shed" and onto the stone train, leaving an empty road for the incoming locomotive. This may sound complicated, but two experienced operators can perform the shunt very quickly.

Operation

Having set the scene by showing how the timetable was prepared and how the hidden sidings work, what about the actual running side of things? I think most Via Mala operators would agree that operation is different from most other exhibition layouts in that one has to actually "drive" the trains over the route. When leaving Rongellen with a train you are on the up grade as soon as you pass over the station level crossing and this continues right up to the Via Mala tunnel on a grade of 1 in 20 and against curves. At the top there is a very sharp

right hand curve followed by the 1 in 25 descent of the Wegerhaus spiral. Every locomotive, even with the same load, has a different operating characteristic and must be fed enough power to get it up the grade at a decent speed. If left at that setting on reaching the summit it would come down the spiral at a fair rate of knots, probably resulting in a derailment. So as it approaches the summit the controller must be wound back so that the train maintains the same speed down the bank as it did when climbing it, more

or less. This applies in either direction.

To help with this the controllers (Gaugemaster) have been marked at the 30 point with a yellow line and at the 40 mark with a red line. This has two uses; the yellow is the normal setting when descending gradients, even this is fairly high and brings them down at a good gallop. Yellow is also used when running a non-stop train through Rongellen. Both controllers are set at the 30 mark and in the same direction, the train then passes smoothly from one operator to the other. The red, or 40 mark is only used when a non-stop southbound Schnellzug ("Thusis" to "Zillis") is running through Rongellen.

In addition to "driving", the operators work both the "Main" and "Yard" panels. When working the "Main" panel they have, in addition to the usual section switches, to operate the station level crossing and set the signals. This is done in conjunction with the block working switch which only allows signals for the direction of travel to be pulled off. It is supplied from a separate power source to the track power so that in event of a signal power failure trains can still run. This switch also tells the Wegerhaus level crossing the direction from which the next

train is coming, so that when the train breaks the first light detection beam the barriers will drop and when the second beam is broken they will go up again. Clever stuff, but don't ask me how it works. In addition there is a sub-panel for shunting Wegerhaus. Signal aspects are obeyed - usually!

Of course operations do not always go smoothly by the book. Some trains get moved out of sequence, these are deemed to be running early or late as the case may be. If they are forgotten, they are supposed to have been cancelled. Then, just as you go to start a train from the sidings you discover that you, or more likely, the previous operator, has forgotten to attach the locomotive, so you are scratching around looking for one to a chorus of voices muttering "when is the next one coming?"

One individual who shall remain nameless, but I will call JJ, delights in detaching wagons off any train passing Rongellen and blocking up the cement or sawmill sidings just as you are

due to shunt one of them. This he usually does whilst the next shift is away having a cup of coffee!

Apart from all this there is always the Wegerhaus shunt. Or the overhead wire that breaks during the day. They never break before or after an exhibition, only during one. The same applies to derailments; they only ever happen when people are watching. It certainly makes life interesting!

All the operators will, I think, agree that after an hour's running they are ready for a break and a cuppa. Most new operators are surprised at how much concentration is required to run the layout. Operators are a bit like swans, all calm above the backscene but paddling like the blazes underneath.

My thanks go out to all "The Swans" who keep Via Mala running despite the occasional operating problem. I am fortunate in that they all do it for enjoyment. After all, it is our hobby and a lot of leg pulling goes on at the back.

Incident at Saanenmoser

by Barry & Sue Cramp

Travelling from Thun across to Gruyères this summer, we arrived at Zweisimmen to change onto the MOB. The new *Crystal Panoramic Express* was waiting but we forsook its luxury - and supplement - to follow a few minutes later by the Schnellzug and a first class compartment behind the driver to ourselves.

All went well until the loop above Zweisimmen. The Regionalzug duly passed and there we stayed. The guard's trackside phone call told of a derailment ahead. We would probably have to reverse to the station and go on by bus. More waiting ensued and then we were called on, to arrive at Saanenmoser by the side of the *Crystal Express*.

A loaded ballast wagon behind a diesel engine had broken its coupling and jumped the rails. Its wheels were firmly bedded in the wooden road crossing sleepers just by the station. We gathered round to watch the fun as the railway staff used hand-pumped hydraulic jacks with screw traverse to inch the wagon

back. It was going to be a long job to rerail that heavy wagon.

Then the plan was revealed. The *Panoramic Express* that had been due to cross our train at Gstaad would inch up to the derailment, passengers would swap trains and carry on back up the line. This duly happened, passengers from our two trains finding it a tight squeeze on the *Panoramic*. This then kept to the Schnellzug stops and timings, but running exactly one hour late. Connections were made at Montbovon and we arrived at Gruyères giving full marks to the MOB.

A vacancy has occurred for a Sales Officer for the Swiss Railways Society. Applications should be made to the Secretary, Peter Dransfield, 10 Beechwood Road, Mirfield, WF14 9JX. This responsible post is a vital one since the growing range of Society products and *Swiss Express* back issues are greatly appreciated by members. In the meantime, only orders for the new Society mugs can be accepted by Les Heath. **Please do not send any further orders to Steve Crebbin.**