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Private Railways in Switzerland - 7 by Brian Hemming

In this issue there is again a varied selection of six private railways, under five headings, covering three metre gauge lines, two which have both metre and standard gauge sections and one which is standard gauge. The metre gauge lines dealt with are the Appenzeller Bahnen (AB), the Chemins de fer des Montagnes Neuchâteloises (CMN) and the Bergbahn Lauterbrunnen-Mürren The Chemins-de-fer-Fribourgeoises (BLM). (GFM) and the Bremgarten-Dietikon Bahn (BD) have both metre and standard gauge running, whilst the associate company of the BD, the Wohlen-Meisterschwanden-Bahn (WM)standard gauge.

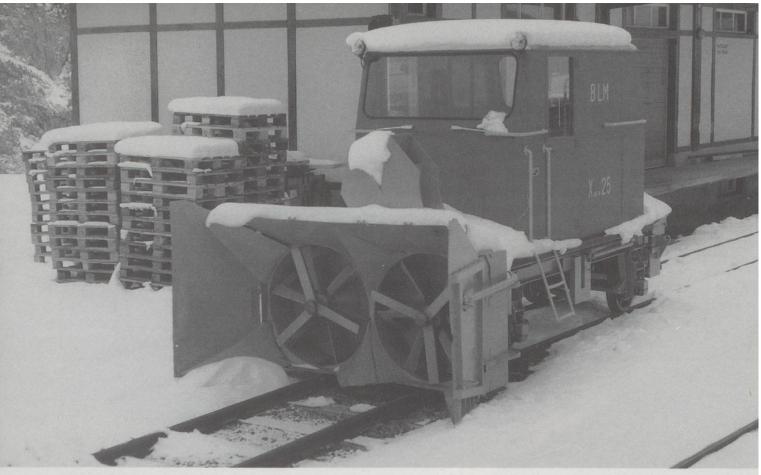
The loss of freight traffic in the last year or two, largely as a result of the contraction of the Cargo Domizil service has had particularly serious effects on the freight services of the AB and BD, whilst a loss of general freight business has spelt the death knell for the WM which is scheduled for closure in June 1997. Freight on the GFM has survived and there is a degree of confidence in the Above: Chemins de fer des Montagnes Neuchateloises (CMN) BDe4/4 5 at Le Locle. Photo: Brian Hemming

future evidenced by the acquisition of two second hand German standard gauge locomotives.

The BLM and CMN are largely passenger lines although they carry very different types of traffic. The BLM, which is a member of the BOB Group, serves the very attractive traffic free resort of Mürren and caters for tourists throughout the year with walkers in the summer and skiers in the winter providing the bulk of the railway's revenue. The CMN, which is under Cantonal control, operates two separate rural lines carrying mostly local traffic and providing a means of access to La Chaux-de-Fonds which is an industrial centre specialising in clock and watchmaking.

Correction: A computer error by the author in *Swiss Express Vol.4/11 p.25* resulted in the liveries for the BVZ being shown incorrectly. They should read: red or maroon livery, tractors - maroon.

Swiss Express Volume 4/12 December 1996



BLM Bergbahn Lauterbrunnen-Mürren

The Bergbahn Lauterbrunnen-Mürren, which was opened in 1891 is a member of the BOB group and consists of two sections; a 1.4 km funicular from Lauterbrunnen to Grütschalp and a metre gauge adhesion railway from Grütschalp to the trafficless village of Mürren. The funicular section was originally operated by water counterweights but problems with freezing in the winter led it to be converted to electric power for the 1901/2 winter season. From its opening the railway was electrically operated with tram type vehicles, but adhesion problems led these to be replaced by Rowan trains (see Swiss Express Vol.4 No.9 page 16 for description) in 1903 which were replaced in 1913 by two electric railcars with a further example being placed in service in 1925. One of the 1913 railcars (Be2/4 No.11) has been restored in its original livery for special use. New railcars, which are still current, were placed in service in 1967 having reached the railway by being hauled up the funicular line.

The funicular line, which has a gradient of 606‰ and a passing loop halfway, is operated by two cars. Each has a platform at the upper end to carry boxes of supplies for Mürren which at Grütschalp are transferred by a rack operated fork truck unit to a wagon attached to the rear of a waiting railcar. The railway runs on a ledge overlooking the Eiger, Jungfrau and Mönch and provides stunning views all the year round. At Mürren there used to be a horse tramway to the Grand Hotel. This was closed some time ago, but one of the trams, on loan from the VHS, Luzern, is on display at the modernised Mürren station. There is an intermediate station and passing loop at Winteregg which enables a year round 15 minute regular interval service to be operated from Lauterbrunnen to Mürren.

Above: Xrotm 25 at Mürren, 27/12/95.

Photo: Brian Hemming

Length: 4.27 km Gauge: 1000 mm Voltage: 525v DC Maximum gradient: 50‰ Depot: Grütschalp Works: Grütschalp Nearest SBB station: Interlaken Ost (via BOB) Kursbuch table: 313

Powered Stock (light brown and cream livery)				
Class	Numbers	Built		
BDe2/4	11	1913		
Be4/4	21 - 23	1967		
Xrotm	25	1956		



AB Appenzeller Bahnen

As long ago as 1928 the Kantons directed the Appenzell Bahn (AB) and the St.Gallen-Gais-Appenzell-Altstätten Bahn (SGA) to work closely together. This culminated in the joining of the two administrations in 1970 to be followed by full amalgamation in 1988 when the new Appenzeller Bahnen emerged

The first section of what was to become the Appenzeller Bahn was opened in 1875 by the Schweizerische Gesellschaft für Lokalbahnen (SGL) between Herisau and Winkeln where connection could be made for forward travel to St.Gallen. Further expansion took place in the autumn of 1875 with the opening of a line from Herisau to Urnäsch. Plans to extend the line to Appenzell, which took place in 1886, resulted in the name Appenzell Bahn being adopted. The opening in 1912 of the Bodensee-Toggenburg Bahn (BT) from St.Gallen via Herisau to Wattwil deprived the AB of much of its traffic and therefore a new line was built between Herisau and Gossau to provide a connection with the Federal Railways. This new line was opened in 1913 and the original line from Above: Appenzeller Bahnen Ge4/4 No.1 at Jakobsbad, 30/7/96.

Photo: Brian Hemming

Herisau to Winkeln was closed on the same day.

The other constituent of the present AB was the SGA. This first section of this line was opened in 1889 as the Appenzeller Strassenbahn from St.Gallen to Gais; the nature of the terrain requiring rack sections for the climb out of St.Gallen. The Riggenbach rack system, modified by Klose was adopted but now only remains on the sharp 30 metre radius horseshoe curve, having been replaced elsewhere by Von Roll plate rack. Extension to Appenzell, to make an end on connection with the AB took place in 1904 but it was not until electrification in 1931 that the name St.Gallen-Gais-Appenzell-Bahn (SGA) came into being.

In 1947 two separate railways were merged, one each, into the constituents of the present Abbenzeller Bahnen. In 1911 a partial rack railway, the Altstätten-Gais Bahn (AG), using the Strub system and 1000v DC electric power was opened. This was absorbed into the SGA, whilst the original AB absorbed the Appenzell-Weissbad-Wasserauen Bahn (AWW). This line,

Swiss Express Volume 4/12 December 1996



Above: ABDeh 4/4 No.7 at Gais (still lettered SGA but AB livery, 2/8/96

Photo: Brian Hemming

known as the Säntisbahn, had opened in 1912 and like the AG electrified at 1000v DC.

Electrification of the SGA at 1500v DC took place in 1931 to be followed by the AB in 1933. The already electrified branches to Wasserauen and Altstätten were not converted to 1500v DC until 1949 and 1953 respectively.

The passenger service on the AB falls into three distinct sections all of which are basically operated on a regular interval basis. An approximate half hourly service covers both the St.Gallen and Gossau services to Appenzell with the Gossau service extended approximately hourly to Wasserauen with additional trains at peak tourist times. The branch from Gais to Altstätten has an hourly service. The services on the main routes to Appenzell are operated by railcars and driving trailers to which additional coaches are added as required, whilst a single railcar sometimes supplemented by additional coaches operates the branch to Altstätten. Freight traffic has declined dramatically in recent years to the point that it is very sparse indeed. What freight remains is now added to passenger trains using the company's own wagons or standard gauge wagons on rollböcken. The Ge4/4 locomotive originally purchased for freight work in 1993 is now fitted for push-pull working and sees regular service on the Gossau-Wasserauen line

Gauge: 1000 mm Rack systems: Riggenbach-Klose, Von Roll plate, Strub Voltage: 1500v DC Maximum gradient: 37‰ (adhesion), 160‰ (rack) Depots: Appenzell, Gais, Herisau, Wasserauen Works: Gais, Herisau

Nearest SBB stations: Gossau SG, St.Gallen Kursbuch tables: 854, 855, 856

<u>Powered Stock</u> (livery: red and grey; red and cream; crimson and cream)

Class	Numbers	Built
Ge4/4	1	1993
ABDeh4/4	4* - 5+	1931
ABDeh4/4	6 - 8	1953
BDeh4/4	11 - 15	1981
BDeh4/4	16 - 17	1993
Xe2/3	17*	1911
BDe4/4	31 - 33	1985
BDe4/4	34 - 35	1993
ABe4/4	41 - 43	1933
BDe4/4	46 - 47	1968
Te2/2	49	1955
De4/4	50	1966
Xm1/2	51	1962
ABDm2/4	56*	1929
Xe4/4	91*	1931
Xrotm2/2	99	1974
Tm2/2	501	1957
	1 1/1 1 1 1 1	010 17

* <u>Notes</u>: ABDeh4/4 4 and Xe2/3 17 are stored; ABDeh4/4 5 and ABDm2/4 56 are restored to original SGA & AB liveries respectively for special use; ABe4/4 42 is on loan to the Rhätische Bahn for use on the Misoxer line; Xe4/4 91 is ex ABDeh4/4 1.



BD/WM Bremgarten-Dietikon Bahn/ Wohlen-Meisterschwanden-Bahn

These two railways are under common management.

BD Bremgarten-Dietikon Bahn

As early as 1876 a standard gauge railway jointly owned by the Centralbahn and Nordostbahn (both later SBB) was built from Wohlen on the Südbahn (later SBB) to what is now Bremgarten West. The line catered for rush hour traffic to Zürich but otherwise the service was sparse and connections to Aarau and other towns in the Reusstal were poor. Local pressure for a line from the Reusstal at Bremgarten to the Limmatal for connections with the Baden to Zürich line resulted in a metre gauge line being opened in 1902 from Bremgarten (Oberthor) to Dietikon. It was another ten years before, in 1912, the metre gauge railway crossed the River Reuss at Bremgarten and continued to Bremgarten West. The standard gauge section forward from here was converted to dual gauge thereby enabling a through metre gauge passenger service to be operated between Dietikon and Wohlen

The dual gauge section is owned by the Federal Railways, the successors to the original owners, and is leased to the BD. The metre gauge passenger service operates between Dietikon and Wohlen at 30 minute intervals, increased to 15 minutes at peak times. The track follows the main road between Dietikon and Bremgarten with some street running in Dietikon. Standard gauge freight, which has now largely ceased, entered the line from Wohlen and operated as far as Bremgarten West with diesel haulage. Beyond here rollböcken were used to transport standard gauge wagons as far as Berikon-Widen using the older railcars for traction.

The metre gauge line was electrified at 750v DC from its opening in 1902 and this was extended to Wohlen on the opening of the dual gauge section in 1912. The voltage was increased to 900v in 1947 and again to 1200v in 1969. Standard gauge trains were worked by a pair of type Em2/2 diesel locomotives whilst freight on the metre gauge was hauled by older railcars.

Length: 12.3 km (metre gauge), 7.6 km (dual gauge) Gauges: 1000 mm, 1435 mm Voltage: 1200v DC Maximum gradient: 53‰ Depots: Bremgarten, Bremgarten West Works: Bremgarten Nearest SBB stations: Wohlen, Dietikon Kursbuch table: 654



Powered Stock (liveries: orange or red, grey and black)

Metre Gauge		
Class	Numbers	Built
BDe8/8	1 - 9	1969
BDre4/4	10	1928
BDe4/4	11	1932
Be4/8	21 - 25	1992
Tm2/2	51	1967
Tm2/2	52	1968

Standard Gau	ge	
Class	Numbers	Built
Em2/2	102*	1966
Em2/2	103*	1984
* etatue unco	rtain not present 8/06	

* status uncertain - not present 8/96

WM Wohlen-Meisterschwanden-Bahn

Plans for a narrow gauge tramway from the Hallwilersee to Wohlen ran into trouble because of disputes over the chosen gauge. Those in favour of a through route to the Bremgarten-Dietikon Bahn advocated a metre gauge line, but pressure from the Federal Railways for a standard gauge line to permit the smooth passage of freight eventually won the day. Despite delays in metal supply due to the First World War the WM opened in 1916 using a line voltage of 1000v DC. The line runs from Wohlen to Fahrwangen, but because of 10% support by Meisterschwanden in the building costs the terminus named Fahrwangenwas Meisterschwanden.

The opening of the railway encouraged industrial developments, particularly at Wohlen and Villmergen, to such an extent that by 1959 freight receipts exceeded those of the passenger service.

Previous page: Be4/8 25 (BD) at Bremgarten, 6/8/96. Above: BDe4/4 No. 1 (WM) at Wohlen, 6/8/96 Photo: Brian Hemming

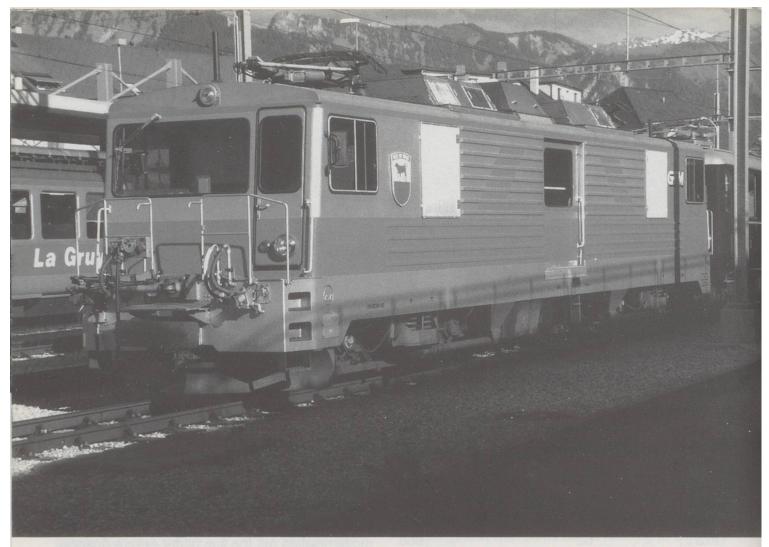
In 1964 the line voltage was changed to the Federal Railways standard of 15kv 16Hz which necessitated a major reorganisation at Wohlen as well as the purchase of new railcars. This modernisation put the line under severe financial strain and as part of a cost cutting exercise its administration was merged with that of the BD. Costs remain a problem and the future of the passenger service on the line is likely to cease after the end of the current timetable.

The roughly hourly passenger service is operated by single railcars, whilst freight is handled by diesel locomotives.

Length: 8.2 km Gauge: 1435 mm Voltage: 15kv 16.7Hz AC Maximum gradient: 44‰ Depot: Fahrwangen-Meisterschwanden Works: Fahrwangen-Meisterschwanden Nearest SBB station: Wohlen (adjacent) Kursbuch table: 655

<u>Powered Stock</u> (liveries: orange or grey and crimson or green and cream; brown (shunters)

Class	Numbers	Built
BDe4/4	1 - 2	1966
BDe2/4	3	1938
Ta2/2	31	1915
Em2/2	101	1961
Em4/4	151	1968



GFM Chemins de fer Fribourgeois, Gruyere-Fribourg-Morat

The GFM came into being in 1942 following the passing in 1939 of a Federal law providing assistance for private railways in financial difficulties. The new railway was formed by the amalgamation of a metre gauge line, the Chemins de fer Eléctriques de la Gruyère (CEG) and two standard gauge lines, the Chemin de fer Bulle-Romont (BR) and the Chemin de fer Fribourg-Morat-Anet (FMA). (Morat and Anet are more commonly known today by their German language names Murten and Ins respectively). An interesting sideline is that the abbreviation CFF could not be used by the new railway because it would clash with that of the French version of the Federal Railways - hence the adoption of local place names.

The oldest constituent of the GFM was the 18.2 km BR which was opened in 1868 to connect Bulle with the Lausanne-Bern line at Romont of what was to become the Federal Railways. This line remained steam operated until it was electrified in 1946 as part of the GFM modernisation programme. The Federal Railways line voltage of 15kV 16Hz AC was chosen.

The next constituent of the GFM to open was the FMA. It opened in two sections, firstly to Murten (Morat) in 1898 and then forward to Ins (Anet) in 1903. This 32.3 km line starts from the main line station at Fribourg and runs a circuitous route across country to Murten where it joins the Lausanne-Lyss (via Payerne) line of the Federal Railways. At Muntelier-Löwenburg it branches off north west to join the BLS Bern-Neuchâtel line at Ins. The line was electrified at 900v DC throughout in 1903 using a third rail with wooden protection except at Fribourg and Murten where overhead collection was used for safety reasons. The whole line was converted to 15kV 16Hz AC in 1947 as part of the GFM modernisation programme.

The final constituent of the GFM to open was the metre gauge network which finally extended from Palézieux to Montbovon where an end on connection was made with the Chemin de fer Montreux-Oberland-Bernois (MOB). The first

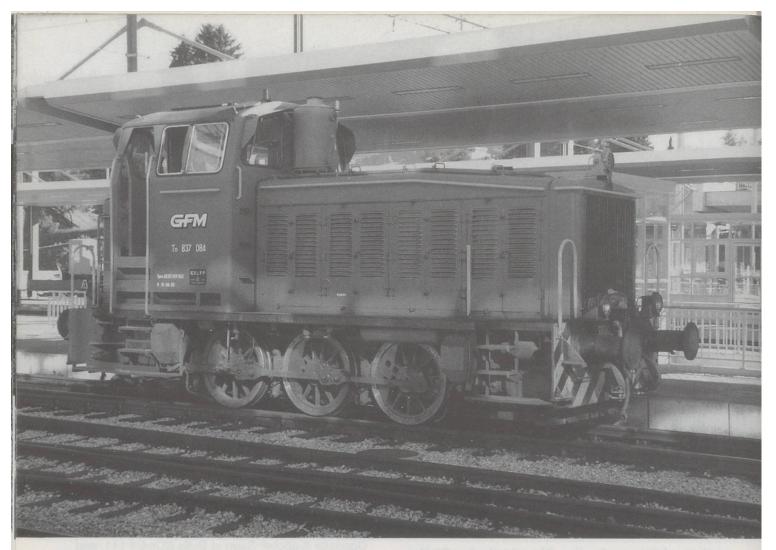


section of this route, the Chemin de fer Châtel-St.Denis-Palézieux (CP) which opened in 1901, connected Châtel-St. Denis with the Lausanne-Bern line at Palézieux of what was to become the Federal Railways. This railway merged in 1907 with the Chemin de fer Châtel-Bulle-Montbovon (CBM) which had been opened in stages during 1903-4, to form the Chemin de fer Eléctriques de la Gruyère (CEG). A branch to the Cailler (now Nestlé) chocolate factory at Broc Fabrique was opened in 1912. The CEG was responsible for starting trolley bus services in Fribourg in 1912 and its own bus services in 1916 both of which survive to this day. All sections of the metre gauge network were electrified from their opening, firstly at 750v DC, then 800v DC and finally the present 900v DC.

Since its formation in 1942 the GFM has invested considerably in its infrastructure. A new bus/rail interchange has been built at Bulle as have new workshops at Bulle Planchy. Many stretches of overhead catenary have been brought right up to date and a number of bridges replaced by modern structures. They have continued to buy new stock, as well as acquiring good second hand items.

Passenger services on the Bulle-Broc Fabrique and Fribourg-Ins line are operated by railcars on a regular interval basis, with the latter providing *Opposite & above:* Seen at Bulle BDe4/4 141, and GDe4/4 1 'Ville de Bulle'

connections at Fribourg, Murten and Ins to the main line network. The services from Palézieux to Montbovon are approximately hourly with connections to and from Lausanne and Chateau d'Oex respectively. Freight traffic originates from the main lines as well as the MOB. The company has both rollschemelen and rollböcken for the transportation of standard gauge stock on the narrow gauge, as well as its own fleets of standard and narrow gauge wagons. It has two narrow gauge locomotives, usually at Bulle and Châtel-St.Denis, and two acquired standard gauge locomotives, usually at Bulle and Fribourg. In addition it has a small fleet of narrow and standard gauge shunting locomotives including one which is kept almost permanently on the short branch to Friboug Pérolles. Special trains run regularly on the narrow gauge network and as well as the company's own operation with historic stock from Bulle to Montbovon, the MOB runs its "Supertrain du Chocolat" to Broc Fabrique (see Swiss Express Sept. 1996 pp18-21). A steam train comprised of Blonay-Chamby locomotive and stock ran in the summer of 1996 between Bulle and Gstaad on the MOB.



Length: 48.2 km (metre gauge), 50.4 km (standard gauge) Gauges: 1000 mm, 1435 mm Voltage: 900v DC (metre gauge), 15kV 16.7Hz (standard gauge) Maximum gradient: 50‰ (metre gauge) 30‰ Depots: Bulle, Châtel-St.Denis, Fribourg Works: Bulle (Planchy) Nearest SBB stations: Fribourg, Palézieux, Romont (all shared) Kursbuch tables: 253, 254, 255, 256

Powered Stock

Orange & silver or green & cream livery; shunters: maroon or orange or brown livery Metre Gauge

Class	Numbers	Built
Te2/2	11, 12	1913
Te4/4	13	1901 (1927)
Te4/4	14	1901 (1933)
Tm2/2	15	1971
Tm2/2	16	1987
GDe4/4	101, 102	1983
Be4/4	111, 115	1903, 1905
Be4/4	116	1922
BDe4/4	121, 122	1922

Above: Tm 837 084 at Bulle, has been in service since 1966. seen here in August 1996. Photo: Les Heath

BDe4/4	123, 124	1996
Be4/4	131, 133	1943
BDe4/4	141, 142	1972
Be4/4	151, 152	1977

Standard Gauge

orunduru	Judge		
Class	Numbers	Old No.	Built
Te2/2	217.052	52	1949
Tm	237.081	81	1943
Tm	237.082	82	1964
Tm	837.084	84	1966
Tm	237.085	85	1977
Tm	237.086	86	1972
Ee2/2	217.091	91	1960
ABDe2/4	537.155	155	1931
ABDe4/4	537.161-162	161-162	1946
ABDe4/4	537.164-165	164 - 165	1947
ABe4/4	537.166-167	166 - 167	1947/8
RABDe4/4	537.171-173	171 - 173	1983
RABDe4/4	537.181-182	181 -182	1991
Ae 417	417.191-192*	191 - 192	1967/8
* ex DB	(previously DR	2) 142.110	& 142.145
respectively	1		



CMN Chemins de fer des Montagnes Neuchâteloises

Above: BDe4/4 No.6 at La Sagne, 10/8/95 Photo: Anne Williams

The CMN was formed by the amalgamation of two separate metre gauge lines, the Chemin der fer Régional Ponts-Sagne-La Chaux-de-Fonds (PSC) and the Régional des Brenets (RdB). Both were still steam operated at the time of amalgamation in 1947.

The first line of the two to be built was the 16km long PSC which was opened in 1889 primarily to transport peat from the La Sagne valley to the standard gauge line at La Chaux-de-Fonds. In 1893 the railway was taken over by the Canton Neuchâtel who put the management in the hands of the standard gauge Jura Neuchâtel railway. Nationalisation of that line in 1913 resulted in the PSC passing to the adjacent Chemin der fer Régional Saignelégier-La Chaux-de-Fonds with which it shared station facilities at La Chaux-de-Continuing poor results brought about Fonds. closure proposals in 1927 but these were over-ruled by the Canton Neuchâtel who then began to consider an amalgamation with other railways in the Jura.

The RdB was opened in 1890 from Le Locle to Les Brenets, a distance of 4.3km, as a steam operated line. During its course it passes through three tunnels having a total length 1058m. Electrification was considered as early as 1908, but it was felt that it could not be justified on economic grounds. In 1942 the company, which continued to struggle, was put under the control of the Tramway de La Chauxde-Fonds.

In 1947 at the instigation of Canton Neuchâtel the PSC and RdB were amalgamated as the CMN. Reconstruction and modernisation of both lines was made a priority and with the completion of electrification the last steam trains ran in 1950.

Both lines are rural in nature, although the Le Locle to Les Brenets line does have some tourist traffic. Neither line has a regular interval service. The service from La Chaux-de-Fonds to Les Ponts-de-Martel is approximately hourly whilst that from Le Locle to Les Brenets is approximately half hourly. Both passenger services are operated by railcars with driving trailers whilst the occasional freight is carried in company wagons or in standard gauge stock on Rollschemelen. The rolling stock is interchangeable between the lines, but because they are not physically connected changes are infrequent. In the summer of 1995 BDe4/4 Nos. 3 & 5 were operating Le Locle to Les Brenets with the remaining stock on the former PSC line.

Length: 20.21 km Gauge: 1000 mm Voltage: 1500v DC Maximum gradient: 40‰ Depots: Les Ponts-de-Martel, Les Brenets Works: Les Ponts-de-Martel Nearest SBB stations: La Chaux-de-Fonds, Le Locle (both shared) Kursbuch tables: 214, 222

Powered Stock (livery: red and cream)

Class	Numbers	Built
BDe4/4	1 - 5	1950
BDe4/4	6 - 7	1991
Tm2/2	11	1983