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## CHIASO SIGNAL CENTRE.

April 1989 saw another milestone in the modernisation of the Gotthard line of the Swiss Federal Railways, when the first fully computerised signalling system was commissioned. The new system was built and installed by Siemens Albis, to replace the 5 electro mechanical systems that had been working in this area since 1929. The core of the signal control system is the Siemens SIMIS-C micro computer - a miniaturised version of the SIMIS Control system - of which there are 69 controlling the 172 point motors, 303 track circuits, 377 signals, the SFR block system, the FS block system and two catenary power supplies located in the 100 kilometres of track within the Chiasso control area. This installation was the first full electronically interlocked system designed and built for the SFR.



*Chiasso Station and the new signal centre.*

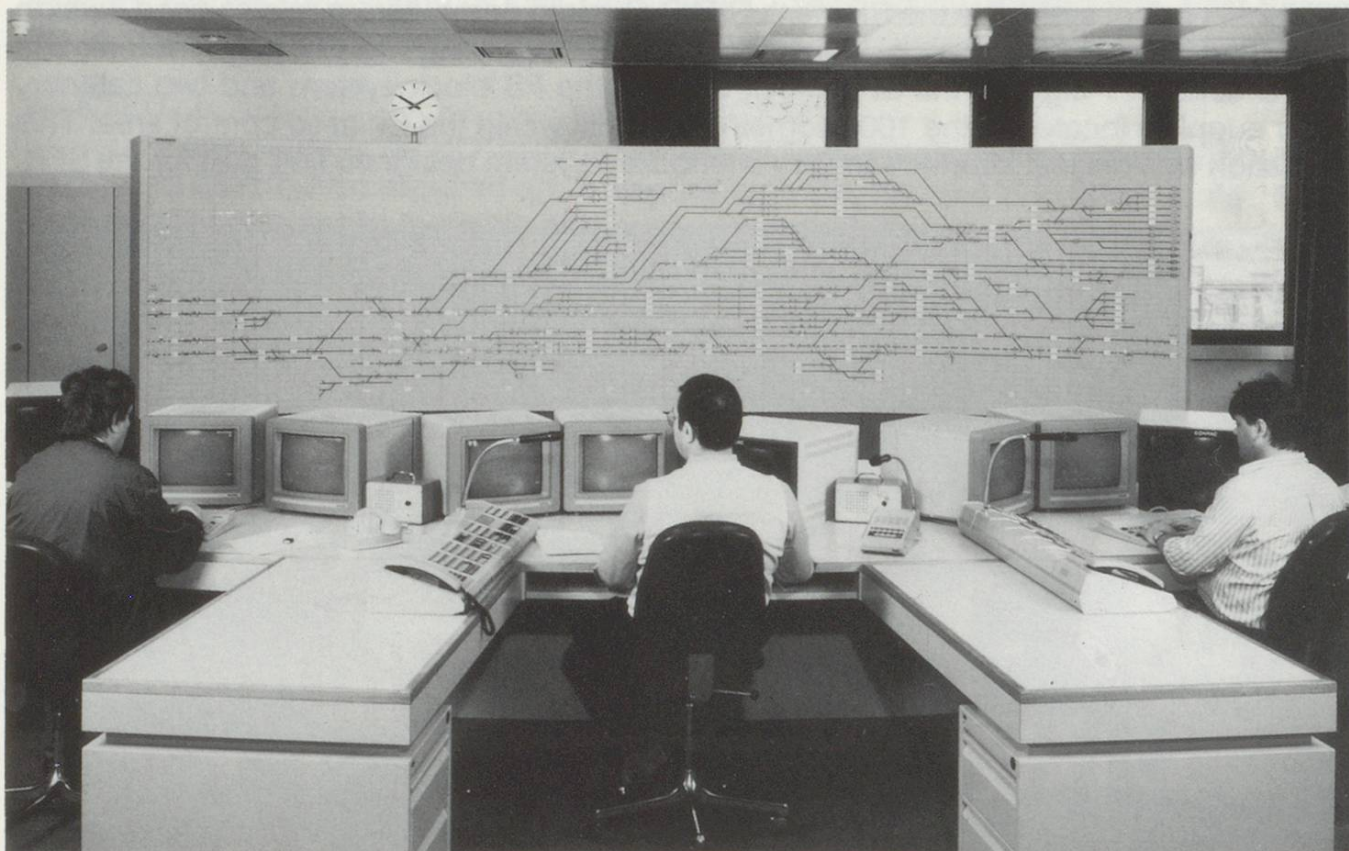
*Photo: Courtesy, Siemens Albis.*

The main control room within the Signal Centre has a large 6 metre long mimic display board, in which the 3000 indicator lamps display the settings of the many signals and routes for the 300 trains per day that use the 100 kilometre of track in the area. Also controlled from this centre is the Balerna signal box which is located at the north end of the huge SFR/FS Marshalling yard. Data to and from either the Balerna signal box or other points within the area and the central computer room is sent via optical fibre cables, a transmission medium that is not subject to interference from the overhead catenary and the many secondary electric circuits in the area.

Just three workstations control all movements within the control area, using 11 colour monitors to give a local display of the various settings. All commands to the



computers are fed in by the controllers using codes to show the start and the end of the route selection. Traffic control information for all trains operating through Balerna is fed to that signal box via the remote control system RCS90 developed by Siemens for this particular area. The route information selected for the Balerna section, either to or from the main Gotthard line and the huge marshalling yard or the main station itself, will be displayed in the Chiasso centre.



*The main Signal Control room at Chiasso.*

*Photo: Courtesy, Siemens Albis.*

Apart from having to set the routes and signals within the SFR control area, there is another function that this centre has to provide for, the routes to and from the Italian railway system. The Italian State railways - Ferrovie dello Stato - not only have their own particular overhead catenary supply of 3000 volts direct current, but they have a distinctly different style of interlocking of signals and points. To make sure that the correct catenary supply of 15kV AC for the SFR or 3kV DC for the FS is fed to the respective locomotives, special protection routines for the catenary supply and the interlocking of the route on the Italian side are built into the computer control programme.

Chiasso is now capable of handling not only the traffic growth expected when the new EEC trade laws become effective in 1992, but the increased traffic as a result of the building of the "basis" tunnel between Erstfeld and Biasca which should be complete by 2010. For the first time in the history of the Gotthard, all traffic between the north and either the new Olimpino II bypass tunnel or the older route to Como and the south, will be under one central control centre making the traffic flow more efficient and far smoother.

My thanks to P. Remstedt of Siemens Albis, and the Siemens Press Office München for the photographs and information for this article.

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#### FRONT COVER PHOTOGRAPH.

M.O.B. Local Train at Chamby.

Photo: M. Bulpitt.

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