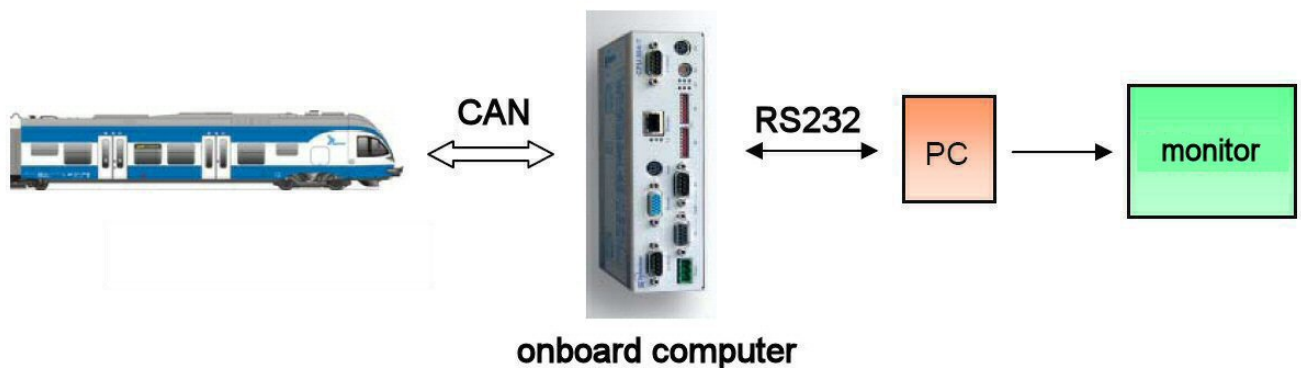


Simulator on the original vehicle

FLIRT of Société Nationale des Transports Ferroviaires, Alger

As part of a thesis at the Berne University of Applied Sciences a simulator was installed on a train from FLIRT of the Algerian National Railways. During the simulation, the vehicle is fully operational, with the exception of the traction part. The simulator was successfully demonstrated at the InnoTrans exhibition in Berlin 08.

Only a few changes in the vehicle's control electronics software were necessary: The signals for the traction part are routed to the simulator PC. This calculates the vehicle dynamics and track views and sends back results such as speed and tractive force to the vehicle's onboard computer. In addition, some interlocking in the onboard computer had to be bypassed or added.



Simulator concept

To view the line ahead a large screen was placed in the cab. The operator's place for the program control (instructor's place) was the first passenger compartment behind the cab.



Screen mounted on support in the driver's cab



Arrangement of instructor's place in the first passenger compartment behind the cab

The power supply of the vehicle is taken from the depot plug (400 V, 50 Hz three phase), the simulation PC is connected to the on-board electricity supply system.

For testing purposes, the simulator was installed on another train of the same series during the TechDays 08 (diploma exhibition of the Berne University of Applied Sciences) at Biel station.



FLIRT of the Algerian National Railways as a simulator at the diploma exhibition of the Berne University of Applied Sciences in Biel

