

Controlling and selecting the train destination display of line U5 (BVG Berlin)

There are another six stations on the BVG underground line U5 between Alexanderplatz and the Hönow terminal where a train could terminate.

As part of the project, the train destination display devices on the underground stations of line U 5 in the direction of Hönow are automatically controlled between Alexanderplatz (departure station) and the Kaulsdorf-Nord station. The approaching train selects its destination automatically, and the display of the train destinations can change between seven different destinations depending on the train sequence and the display "No boarding". The control system consists of three equipment components:

- the infrared transmitter
- the infrared receiver
- the logic and switching unit

One infrared transmitter each has been installed in the driver's cab of every train (see photograph with the IR transmitter behind the windscreen on the left-hand side next to the screen wiper). The transmitter emits invisible IR beams in the direction of motion that has been modulated with the train's identification. The train driver sets the train's destination on a step switch on the transmitter.



Fig. 1 • Driver's cab with IR transmitter

An infrared receiver installed immediately next to the track after each of the altogether 15 stations picks up the identification signal emitted from the IR transmitter of the passing train and demodulates it accordingly.

A logic and switching unit installed on each of these stations gets the information about the train's destination from the receiver, when the train leaves the station. All logic and switching units are connected with each other by an FM cable, and the information about the destinations of the trains already recorded are passed on from one logic and switching unit to the next one in the direction of the train's motion.

The logic and switching unit of the station concerned filters out the relevant train destination received from the information of the logic and switching unit as well as from the connected IR receiver located (geographically) in front of it and addresses the station's train destination display directly via its relay outputs.

If additional trains start operating en route that may come from the depot or another terminal, the system will automatically re-arrange itself.



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