



REDRAIL – SYSTEM FOR TRAFFIC VIOLATION MONITORING AT RAILWAY LEVEL CROSSINGS

- Video-detection of light signalling
- Licence plate recognition
- Possibility of traffic accident reconstruction from video-recording
- Wireless data transmission
- Technology independent on railway equipment



General Description

RedRail is an automatic system for detection and archiving of traffic violations primarily at railway crossings equipped by the level crossing system with light signalling. System operates on basis of vehicle licence plate recognition.

The main function of the system is a detection of vehicles passing through level crossing during flashing of the red light or a video-recording of an accident. Because of modularity of the AŽD Praha camera system it can be used also for other useful functions like for instance

acquiring statistical traffic oriented data or searching for stolen vehicles.

Basic Technical Description

System consists of four CCD cameras and computer for evaluation of the video picture in the real time. Next parts are infrared reflectors for easy vehicle detection in a miserable weather and at night.

System is activated by the red light of the level crossing warning board.

Then a situation with detection of passing vehicle licence plates is video-recorded. The recognised registration plates with data, time and location of traffic violation along with a picture are stored into a database. Then they are coded and transmitted via GSM technology to the dis-

patcher's workplace for additional processing.

Deployment of the RedRail system depends on a current situation. In general, cameras along with infrared reflectors are installed at a separate post ensuring a good view of a situation at the level crossing. System does not require any coupling with railway systems and therefore it is technologically completely independent.

Camera signal is transmitted over a metallic line. In case signal distortion by induced voltage is impending (for instance near trolley line or a tram line) the transmission is provided over a fibre optic cable with signal optical converter.

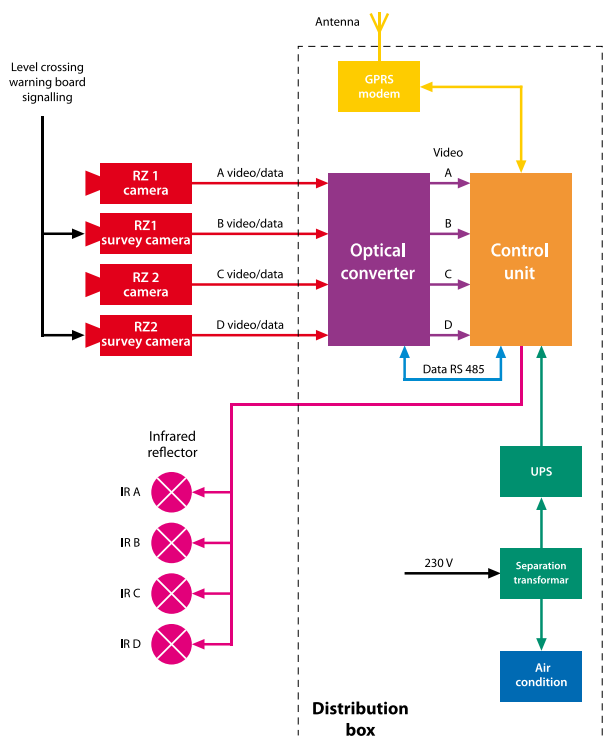


System graphic interface



Basic Technical Parameters

Survey and detail cameras	colour CCD
Industrial computer	PXI National Instruments
Operating System	real time OS
Software	RedRail
Communication module	GSM GPRS modem
Accessories	converters, IR reflectors



Block diagram



Stand with CCD cameras and infrared reflectors