



# Case Study

# HMI for Locomotive Surveillance Solution

## The Significance of Railway Touchscreen Monitor

Modern trains are equipped with increasingly intelligent subsystems to meet the demand for improved performance, safety, and comfort. From surveillance systems inside and outside the train to operational status management, a reliable touchscreen monitor helps the operator improve operational efficiency and safety, enabling real-time control and monitoring.

### Challenges

The customer, a train manufacturer, was looking for a railway-grade high-brightness monitor with a rugged design capable of accommodating a wide voltage input. This requirement stemmed from the intricate system design integrating multiple cameras and switches. The monitor enables train drivers to effortlessly switch between cameras using touch screens, facilitating convenient monitoring of events surrounding the train.

### Main Requirements

- EN 50155 & EN 45545-2 certified railway monitor
- 10.4" high brightness TFT touchscreen LCD
- Supports light sensors for auto-dimming function
- 24 VDC to 110 VDC wide power input range

## The EN 50155 Certified Touchscreen Monitor with User-Friendly Features

The P710 is a 10.4" XGA TFT LCD touchscreen monitor that is one of the few on the market certified for railway use cases while offering decent specifications, making it the best partner for train operators. The featured specifications include a max resolution of 1024 x 768, a brightness of 500 nits, and a wide viewing angle of 176°. Plus, the auto-dimming function, the features enable a viewable screen at any time.

What's more, the P710 provides three input signal options, VGA, HDMI, and DVI-D, providing system integrators with flexibility. The 10.4-inch railway monitor also supports a wide voltage input range of



24-110 VDC.

## Application

### The P710 Displays Real-Time Images for Locomotive Surveillance

The railway-certified P710 is integrated with cameras and switches to monitor the surrounding and indoor environments. As the cameras were installed at the front of the locomotives, the night vision and wide-angle view allowed the operator to monitor the track and surroundings clearly to prevent any accidents. The P710's touchscreen interface provides an intuitive and user-friendly way for the operator to control the cameras and access critical information and controls, enabling fast reaction in emergencies and ensuring a safe ride.



### System Configurations of the P710

- EN 50155 & EN 45545-2 certified railway monitor
- 10.4" high brightness XGA TFT touchscreen LCD

- Wide viewing angle and high brightness of 500 nits
- Supports VGA, DVI-D, and HDMI
- Light sensor for auto-dimming
- 24 VDC to 110 VDC wide power input range
- -25°C to +55°C wide temperature range
- Supports 5 OSD keys on the front bezel

## Why Axiomtek

Transportation is a critical domain that Axiomtek has been committed to. We provide a range of systems for integrators and end customers to create a safe and reliable commute experience together. The transportation products include certified gateways, embedded systems, touch panel PCs and touchscreen monitors. What's more, with value-added I/O modules compatible with the systems, our customers can develop kinds of solutions with us.

"Axiomtek's P710 has proven to be a valuable addition to our locomotive surveillance system from an engineer's perspective. Its seamless integration, robustness, intuitive interface, and advanced features enhanced our capabilities in railway operations. As engineers committed to safety and reliability, we wholeheartedly endorse the Railway Touch Monitor as a superior solution for the railway," said the engineer of the customer.

## About Axiomtek Co., Ltd.

Axiomtek has experienced extraordinary growth in the past 30 years because of our people, our years of learning which resulted in our tremendous industry experience, and our desire to deliver well-rounded, easy-to-integrate solutions to our customers. These factors have influenced us to invest in a growing team of engineers including software, hardware, firmware, and application engineers. For the next few decades, our success will be determined by our ability to lead with unique technologies for AIoT and serve our key markets with innovatively designed solution packages of hardware and software – coupled with unmatched engineering and value-added services that will help lessen the challenges faced by our systems integrator, OEM and ODM customers and prospects alike. We will continue to enlist more technology partners and increase

collaborations with our growing ecosystem who are leaders in their fields. With such alliances, we will create synergy and better deliver solutions, value, and the expertise our customers need.