

Outdoor LCD Signage with Superb Weather Resistance and Robustness Increases Passenger Safety by Providing High-Resolution Images and Better Vision for Conductors

Installation Details

Display Delivery Timed with the Installation of Platform Gates

In accordance with new Elevating Platform Gates that are currently being developed to enhance passenger safety, West Japan Railway Company (hereinafter referred to as JR West Japan) has been carrying out a trial operation at Rokkomichi Station from December 2014.

As part of this trial operation, Platform Monitors for Conductors have been installed on the station's platform as a safety confirmation system for when conductors open and close the train doors. Panasonic's TH-47LFX60 47-inch outdoor LCD signage, which offers superb weather resistance and robustness, was selected as the display system.

Bright Outdoor Displays Support Safer Train Service

The Elevating Platform Gates installed at the station's platform (pictured at the lower, with the red arrow) rise whenever the train's doors open upon arrival at the station, making it difficult for the conductor to confirm the passenger status at the front cars of the train. As a countermeasure, JR West Japan has decided to install a camera near each of the train doors on the platform to provide a display, and to introduce the Platform Monitor for Conductors to enable conductors to confirm passenger safety. Initially, a 42-inch display attached to a housing for outdoor use was scheduled to be used for the image display, but size and weight posed a challenge, as the display and housing combined exceeded a weight of 100 kg.



When the train arrives

When the platform gates rise

The Platform Monitor for Conductors suspended from the platform ceiling (pictured at the upper left). With no need for a housing, the compact device provides a clear overhead view of passengers. The display can be installed without overwhelming incoming passengers.

After viewing the TH-47LFX60 at a Panasonic exhibition, JR West Japan expressed interest in the fact that it could be used in outdoor environments with exposure to strong sunlight, and a trial operation was implemented using this model. As a result, the following points were highly regarded, and upon completion of the trial operation in November 2014, a total of four displays were installed at Rokkomichi Station.

- With its high 2000-cd/m² brightness, the display could show highly visible images even in environments with direct sunlight hitting the screen from the afternoon sun.
- With high dust and water resistance equivalent to IP55, the display can be installed and operated outdoors without a housing.
- Without the need for a housing, the display can be set up with a compact and lightweight installation, greatly simplifying construction.



The elevating platform gates (red arrow) made it difficult for conductors to confirm the situation on the platform, but the display images (Platform Monitor for Conductors, pictured at the upper left) provides clear visibility for a safer train service.

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System Outline

A Robust Display That Can Be Easily Installed Outdoors

Until now, displays installed at station platforms required the following conditions to be met:

- Dust and water resistance that could prevent penetration by dust, rain and snow.
- A protective glass for the front of the display screen.
- The installation of a large canopy to provide highly visible images that wouldn't be obstructed from sunlight.

With the need for a large housing, the weight exceeded 100 kg when attached to a 42-inch display. As a result, it was difficult to install the device from the ceiling of the platforms, and the construction of a new pillar was required.

The TH-47LFX60 provides high dust and water resistance. Also, by utilizing high-resolution LCD panels, highly visible images can be displayed even when direct sunlight hits the screen. This eliminated the need for a canopy to block the light. In addition, the weight of the device was cut down to 47 kg, making it possible to install it from the ceiling of the platform, and also significantly reducing construction work.

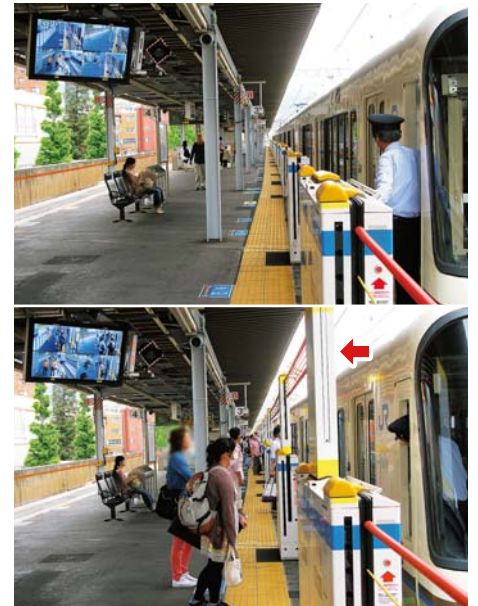
The Platform Monitor for Conductors Helps Confirm Passenger Safety

Safety measures could be disrupted if delays occur in the images displayed on the Platform Monitor for Conductors used to confirm the safety of passengers when the platform gates rise, so the devices use analog images with no time lags. At Rokkomichi Station, where trains with a maximum of 12 cars pass through, six cameras were installed on the platform. Each camera records the areas near the doors of two cars, and transmits the images to a multi-image screen. The images from the six cameras are processed onto a single screen and output to the display (images from four cameras are displayed onto a portion of the display).

Four displays were installed based on the locations where the trains stop at the platform. The safety of the passengers can now be confirmed when the conductor opens and closes the train doors.

*As of February 2015.

Because the TH-47LFX60 can be continuously operated 24 hours a day, it is constantly powered at Rokkomichi Station. This prevents the risk of accidents occurring due to operating the power supply.



▲ The relation between the Elevating Platform Gates and the conductor's vision.

[Top photo] When the train door is closed upon arrival at the platform, the platform gate is lowered.

[Bottom photo] When the door opens, the platform gate (red arrow) rises. From the back of the train, the conductor's vision is poor, and it's difficult to confirm passenger safety just by viewing with the naked eye.



▲ The Platform Monitors for Conductors were installed based on the position that the train stops. The split six-screen display (pictured at the left) that shows images of 12 cars, and the split four-screen display (pictured at the right) that shows images of 8 cars can be used accordingly.

*As of February 2015



▲ A comparison of a conventional display and the newly installed TH-47LFX60.

(Top photo) Conventional displays (pictured at the left) used a large housing and canopy to block sunlight and provide dust and water resistance, for highly visible images. The TH-47LFX60 (pictured at the right) can be installed by itself, and provides superb dust and water resistance, as well as highly visible images.

(Bottom photo) The TH-47LFX60 as seen from behind. With a weight of less than 50 kg, it can be installed from the ceiling of the platform, and significantly reduces construction work.

JR West Japan Rokkomichi Station Platform Monitor for Conductors — Schematic View

