

PIXIM REVIEW

# Port Security

## Pixim-Powered Cameras Help Thwart Security Concerns at Ports

The importance of port security cannot be overestimated: An estimated 80 percent of the world's trade is transported by sea and is loaded and unloaded at ports. Port activities are varied and include container and other cargo transport, as well as use by cruise lines, fishing boats, and other commercial and pleasure vessels. In many ports globally, including those in the U.S., video cameras are crucial aspects of port security. Traditional CCD-based security cameras, however, cannot provide consistently high-quality images in the harsh lighting conditions of 24-hour port operations: everything from bright sun, reflections off containers and ships, deep shadows, and dead of night.

Common security camera problems for ports include:

- › Lack of detail in high-contrast and backlight conditions outdoors
- › Image washes out due to glare and reflections from glass and metal
- › Color inaccuracies in varying lighting conditions
- › Low-quality Digital Video Recorder (DVR) recordings

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### At-A-Glance:

Pixim Digital Pixel System<sup>®</sup> (DPS) Technology

- › Widest Dynamic Range (WDR): Captures up to 1024 times more data (dynamic range) than standard CCD cameras
- › Signal-to-noise ratio (SNR): >50 dB (max)
- › Sensitivity: <0.5 lux (CMY) minimum illumination f/1.2, 50 IRE
- › Resolution: 540 horizontal TV lines (HTVL) equivalent



## Pixim-Powered Cameras Help Thwart Security Concerns at Port [continued]

Pixim's Digital Pixel System® (DPS) ultra-wide dynamic range technology, a true breakthrough in imaging technology, delivers unprecedented image quality in all lighting conditions. Cameras powered by Pixim's specialized image processing chipsets can significantly enhance port security through the following capabilities:

- › **Widest dynamic range:** Captures highlight and shadow detail in the same scene.
- › **Highest total resolution:** Makes it easy to distinguish image features and details, even in highly variable lighting conditions.
- › **Superior color rendering:** Accurately displays color even in difficult lighting such as backlight, mixed indoor/outdoor scenes, glare, and reflection.
- › **No "sun blindness":** "Sun blindness" is common in east-facing CCD cameras in the morning and in west-facing CCD cameras in the afternoon.
- › **No "camera blindness":** Eliminates the vertical smear, pixel blooming, and other image artifacts commonly encountered in high-contrast scenes.
- › **High image compression:** Improves image quality with smaller file size – allowing DVRs to record with higher frame rate or higher resolution, or both, while maintaining the same total recording time.



› Vertical smear and pixel blurring

› No camera "blindness" despite harsh lighting conditions

The United States processes 6 million containers annually through its ports.

In this era of increasing kinds of threats on ports, security cameras powered by Pixim technology can help monitor not only the ports themselves, but also the vessels, materials, and people. By enabling clear, crisp images under even extreme lighting conditions, Pixim-Powered cameras are being deployed to deter theft, promote safety for passengers, and help prosecute people involved in illegal activities. Security cameras using Pixim technology also may help to improve the flow of maritime trade by simply acting as a deterrent to dangerous or illegal activity.

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