Case Study

Cincoze DE-1000 Powers Train Carriage Passenger Information System

Introduction

A state-owned railway company in northern Europe required a passenger information system (PIS) in its train carriages to deliver real-time passenger information, such as route details, arrival and departure times, and advertisements. The railway company wanted the PIS to engage with passengers and enhance their travel experience. They needed a rugged embedded PC as a media player because it offers flexible setup and more robust, more reliable operation than run-of-the-mill media players.

A Cincoze partner set up this railway carriage PIS. They specialize in providing visual information and digital signage systems that broadcast digital content to audiences just about anywhere, including taxis, buses, trains, retail stores, and clinics. These digital signage systems aim to enhance customer engagement and convenience, with multiple displays throughout the installation location for maximum coverage.

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Customer's Demands

Network Connectivity and Multiple Display Options
The PIS architecture is multi-layered. The first layer is the automatic vehicle system that collects GPS data and connects to the LTE network. That vehicle system connects to a master embedded system (DE-1000) that controls eight client systems (DE-1000) installed in eight separate carriages. The master embedded system delivers content to the client computers through Ethernet with ruggedized M12 connectors that guarantee robust communications. Each client system connects to an ultra-wide bar LCD monitor in the carriage.

Low Power Consumption and Shock/Vibration Resistance
As the media players only display digital content, the customer chose our power-efficient DE-1000 for its low power consumption. Additionally, the computer must also withstand the shock and vibration in the rolling stock environment, and the rugged design of the DE-1000 delivers this requirement flawlessly.

Why Cincoze?

- **Modular Expansion Capability**

The DE-1000 houses a wide variety of inputs and outputs and allows for additional expansion. Two Mini-PCIe slots (one with mSATA support) offer additional expansion options, including wireless LAN, 3G/LTE, GPS, and storage. Through Cincoze CMI and CFM expansion, the DE-1000 can support further I/O like 4 x LAN/M12 expansion (optional) and other functions, including power ignition and power over Ethernet (optional). Moreover, DE-1000 offers additional models with one (DE-1001) or two (DE-1002) PCI/PCIe slots to integrate with various add-on cards.
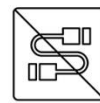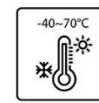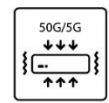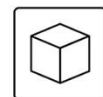

- **Power Efficient Design**
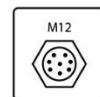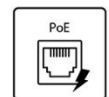
The DE-1000 is the ideal solution for uninterrupted continuous operation. It features an Intel® Atom™ processor, delivering excellent processing power with only 10 W power consumption. The DE-1000 serves markets that demand cost-effective and power-efficient systems without compromising on performance.

- **High Reliability for Harsh Environments**

Rolling stock is considered a harsh environment because of the shocks and constant vibration. To conquer this challenge, the DE-1000 has a unibody chassis, cable- and jumper-free, and integrated anti-vibration measures and supports operating temperatures from -25 to 70°C. The DE-1000 is EN 50121-3-2 certified for safety rolling stock standards, passing all stringent tests to ensure stable and reliable performance.

For more information, please visit www.cincoze.com, or contact us thru email: info@cincoze.com.
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