# Intelligent Transportation System Solutions

## Rugged Design with Industry-Proven Success

- ✓ Automatic Fare Collection
- ✓ Station Management
- ✓ Wayside Control
- ✓ Rolling Stock
- ✓ Traffic Management
- ✓ Control Room

Wayside Control

Automatic Fare Collection

Traffic management

Rolling Stock

**ADVANTECH**

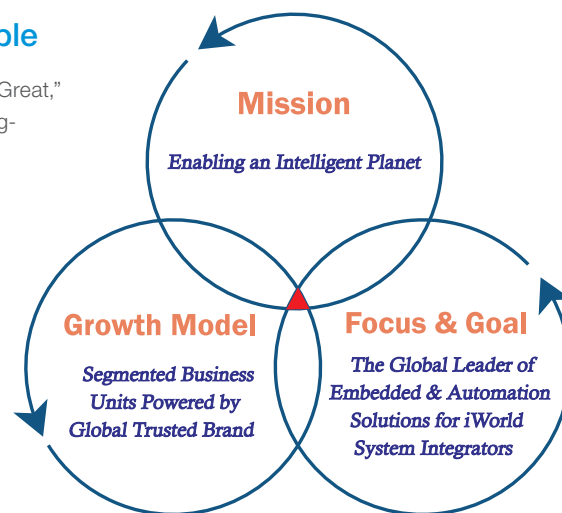*Enabling an Intelligent Planet*

www.advantech.com

# About Advantech
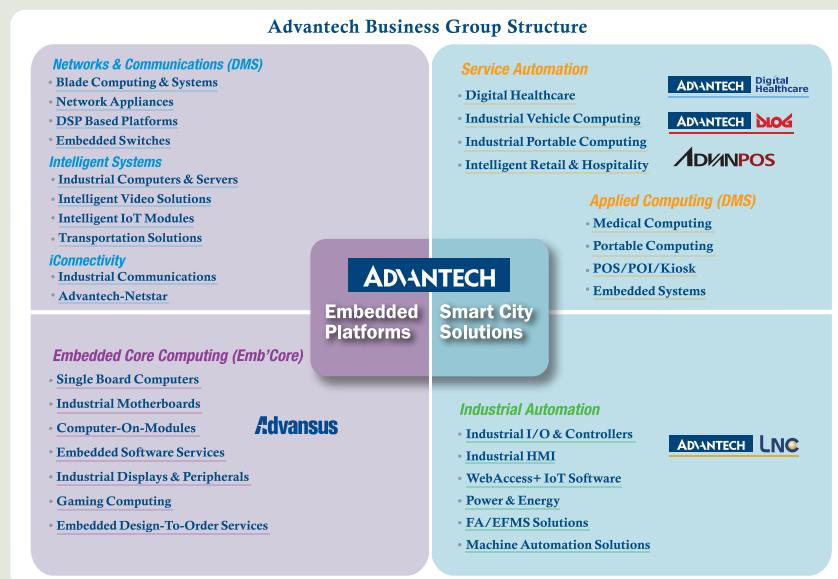
## Advantech: Partnering for Smart City & IoT Solutions

Founded in 1983, Advantech is a leader in providing trusted innovative embedded and automation products and solutions. Advantech offers comprehensive system integration, hardware, software, customer-centric design services, and global logistics support; all backed by industry-leading front and back office e-business solutions. Advantech has always been an innovator in the development and manufacture of high-quality, high-performance computing platforms. We cooperate closely with our partners to help provide complete solutions for a wide array of applications across a diverse range of industries. To realize our corporate vision of Enabling an Intelligent Planet, Advantech will continue collaborating and Partnering for Smart city & IoT Solutions.

## Advantech's Good-to-Great 3-Circle Principle

The Advantech 3-Circle Principle is based on the book "Good to Great," by Jim Collins. According to the book, a company looking for long-term success should clearly address these three fundamental principles, and commit to their continuing, solid execution. Advantech is fully committed to this approach and has defined the Advantech "Good to Great 3-Circle Principle" as a means of adhering to it.

**Mission**
Enabling an Intelligent Planet

**Growth Model**
Segmented Business Units Powered by Global Trusted Brand

**Focus & Goal**
The Global Leader of Embedded & Automation Solutions for iWorld System Integrators

## Advantech Corporate Structure and Growth Engines

### Advantech Business Group Structure

**Networks & Communications (DMS)**
- Blade Computing & Systems
- Network Appliances
- DSP Based Platforms
- Embedded Switches

**Intelligent Systems**
- Industrial Computers & Servers
- Intelligent Video Solutions
- Intelligent IoT Modules
- Transportation Solutions

**iConnectivity**
- Industrial Communications
- Advantech-Netstar

**Embedded Core Computing (Emb'Core)**
- Single Board Computers
- Industrial Motherboards
- Computer-On-Modules
- Embedded Software Services
- Industrial Displays & Peripherals
- Gaming Computing
- Embedded Design-To-Order Services

**Advansus**

**Service Automation**
- Digital Healthcare
- Industrial Vehicle Computing
- Industrial Portable Computing
- Intelligent Retail & Hospitality

ADVANTECH Digital Healthcare
ADVANTECH DLOG
ADVANPOS

**Applied Computing (DMS)**
- Medical Computing
- Portable Computing
- POS/POI/Kiosk
- Embedded Systems

ADVANTECH
Embedded Platforms | Smart City Solutions

**Industrial Automation**
- Industrial I/O & Controllers
- Industrial HMI
- WebAccess+ IoT Software
- Power & Energy
- FA/EFMS Solutions
- Machine Automation Solutions

ADVANTECH LNC

### • Networks & Communications DMS

Advantech's integrated DMS "StarFleet" Model provides OEMs and premier key accounts with customer-focused Design and Manufacturing Services (DMS), winning together through worldwide partnership and collaboration. DMS provides hardware and software integrated solutions. For the telecom and networking markets, Advantech provides mission-critical hardware to the leading equipment manufacturers. Advantech's standard and customized products are embedded in OEM equipment that the world's communications infrastructure depends upon. Through Advantech's premier Design & Manufacturing Services our customers get reliable, open-standard solutions from the leading innovator in network platform development and manufacturing – plus dedicated resources and support to back them up.

### • Applied Computing DMS

Advantech is a leading industrial computer systems manufacturer and customized solutions provider. Under Design & Manufacturing Services (DMS), our applied computing professionals develop vertically-driven, application-specific platforms and service-ready solutions for use in many sectors: gaming computing, eHealthcare computing, portable computing, and embedded systems. We specialize in designing and manufacturing the widest range of high quality and high performance industrial grade hardware and dedicated software tailored to the exact needs of each industry field. With a dedicated research & development team, a full range of customization capabilities, and a global sales/service organization, the Advantech DMS applied computing team has what it takes to fulfill customers' time-to-market requirements.

# World-Class Recognition

Advantech is an authorized alliance partner of both Intel® and Microsoft®. Our customers find the technologies we use inside our products to be widely compatible with other products in the global marketplace. In 2011, Interbrand, the world renowned brand consulting firm, once again recognized Advantech as one of the Top 10 Taiwanese Global Brands. Advantech appreciates this recognition of our efforts to build a trusted, global brand; it also symbolizes a promise we give to our business partners, which is to keep building a trustworthy brand that is recognized everywhere and improves the lives of all.

# Model Corporate Citizen

Advantech is committed to being a model corporate citizen by helping to preserve the environment and by giving back to society. Our environmental program focuses on reducing, reusing, and recycling materials used in our manufacturing operations. Advantech's environmental compliance effort includes the following:

- ISO 9001 Certification
- ISO 14001 Certification
- ISO 13485 Certification
- OHSAS 18001 Certification
- TL9000 Quality Management System
- RoHS Directive Compliance
- WEEE Directive Compliance
- Authorized Sony Green Partner

# Timely Support at Your Convenience

Advantech has over 12 regional toll-free hotlines, and offices throughout 71 cities in 21 countries, with over 5,000 employees to provide efficient, professional services for customer care, product selection, technical support, and order handling. Through our call centers and online stores, customers worldwide enjoy the convenience of Advantech's multi-service channels to reduce business turnaround time. Together with over ten customer service centers in Taiwan, China, Japan, Korea, Singapore, Brazil, the Netherlands, Poland, and the United States, our global service network offers an extensive spectrum of services that includes warehousing, logistics, peripheral certification, sourcing and purchasing, and RMA and support services.

## • Embedded Core Computing

Embedded Core Computing Group provides a full range of embedded boards, systems, peripheral modules and innovative embedded software services with leading technologies to customers. With a range of specialist design-in services backed by our internal and global resources, Advantech is committed to working closely with embedded customers to ensure design success by helping them discover new business opportunities through advanced embedded technologies and services that empower smart applications for an intelligent planet.

## • iConnectivity

Advantech's iConnectivity group offers a full range of Industrial Communication products including wired and wireless communication solutions (3G, GPRS, and WLAN) for mission critical applications. These products include: Industrial Ethernet Switches, Industrial Wireless AP/CPE, Media Converters, Serial Device Servers, Cellular IP Gateways, and Modbus Gateways. They are also capable of securely transmitting critical and sensitive information, remotely monitoring and controlling networked devices and emphasizing high communication capabilities for industrial applications. These reliable and robust industrial grade communication products from Advantech's iConnectivity group fit different applications including transportation, automation, oil & gas, and semiconductor and the mission is to simplify the way you connect.

## • Embedded Systems & Intelligent Platforms

With innovative technologies from cloud computing (industrial server, video server), edge computing (fanless, slim & portable devices), to high performance embedded systems (blade computing, network processor platforms, DSP processing), Advantech transforms embedded systems into intelligent systems with smart, secure, energy-saving features, built with Industrial Cloud Services and professional System Design-To-Order Services (System DTOS). Advantech's intelligent systems are designed to target vertical markets in transportation, industry (machine automation, equipment/machine building), digital signage, and video applications (video infrastructure and video surveillance).

## • Service Automation

Advantech's Service Automation & Applied Computing Group invests in developing vertically-driven, application-specific platforms and service-ready solutions for use in many sectors: industrial portable computing; digital logistics & fleet management; digital healthcare & medical computing; smart room & scenario control for home and office; and digital signage & self-service computing for retail, hospitality, enterprise, education, and public spaces. Service Automation & Applied Computing Group lets you enjoy the convenience, safety, and efficiency that smart applications deliver, and experience the best in interactive and innovative technologies and services.

## • Industrial Automation

With the theme of Intelligent Automation, Seamless Integration; the Industrial Automation Group (IAG) of Advantech Corporation is a pioneer in intelligent automation technology. By combining connectivity, flexibility, ruggedness and leading-edge "Internet of Things" technology, IAG offers product offerings for intelligent HMI platforms, the industrial Ethernet, wireless communications, automation controllers, automation software, embedded automation computers, distributed I/O modules, wireless sensor network solutions, motion I/O and plug-in I/O modules for a wide array of industries. With more than 20 years of experience in providing a full range of products to different vertical markets, IAG is a leading global automation product and services provider.

# Intelligent Transportation Systems

## Total Solutions Delivery for Railway infrastructure Systems

Advantech working in cooperation with its partners has long provided reliable platform solutions that pave the way for intelligent transportation in cities around the globe. With a decade of successful experience, Advantech has dedicated resources to designing and developing new products designed for the transportation industry. These products support railway automatic fare collection, wayside, rolling stock, traffic management and more. Our mission is to enable intelligent transportation systems, which also helps us fulfill our vision of creating and delivering smart city technologies.

**Rolling Stock**
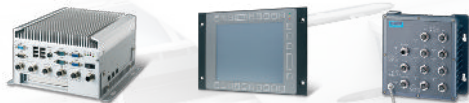
ITA-5000 Series, TPC-8000 Series, EKI-6500 Series

**Wayside Control**

ITA-2000 Series, ITA-5000 Series, EKI-1000 Series

**Control Room**

AVS, ASR, Server

**ETC**

ITA-3000 Series, ARK-2000 Series, EKI-7600 Series

**Station Management**

Rackmount and Wallmount Systems, EKI-7500 Series

**Automatic Fare Collection**

ITA-1000 Series+ EKI-3000 Series

**Traffic Management**
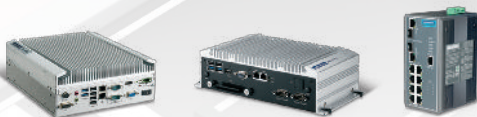
ITA-3000 Series, ARK-2000 Series, EKI-7000 Series

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# Advantech Proven Success in Transportation

## Our Glory Global Footprint

Whether it's AFC, CTC, ETC or any number of other transportation system applications, For the past few years, Advantech is dedicated in its efforts to provide the most stable, intelligent transportation systems to cities around the world. We are specialized in technical know-how and equipped with the domains to build transportation systems on the basis of discrepant needs of various applications. With decades of experiences, our product offerings toward the market of transportation have been more well-founded and completed now. Today, our efforts have been paid off. We have an impressive portfolio of successful case stories that we are proud to share with you. Advantech is and will always be by your side, continuously delivering total solution packages to our partners and customers around the world.

- San Francisco
- Los Angeles
- Cincinnati
- Milpitas
- Boston
- Pittsburgh
- Austin
- Atlanta
- Mexico
- Miami
- Brasília
- São Paulo

- ● ETC/MTC
- ● Railway/ Metro
- ● Road Surveillance
- ● FID
- ● CTC

Reading

Amsterdam

Madrid

Milan

Beijing

Shan Xi

Seoul

Tel Aviv-Yafo

Zheng Zhou

Tokyo

Istanbul

Cheng-Du

Shanghai

Pune

Taipei

Hong Kong

Bangalore

Kuala Lumpur

Singapore

Jakarta

Melbourne

# Automatic Fare Collection

Automatic Fare Collection System (AFC) is one of basic station equipment that consists of automatic gate machine, ticket vending machine and ticket checking machine. In this application, stable and integrated platforms are necessarily to keep passenger flow run smoothly at peak hours; at the same time, all data will be gathered and transmitted into center. ITA-1000 Series are our offering that designed for this scenario.

# AFC Controller Offerings

- Supports 9V to 36V wide range of DC inputs
- Optional F-RAM (Ferroelectric Random Access Memory)
- Easy-accessible CF/DOM module
- Anti-vibration test enhancement

| | ITA-1611 | ITA-1711 | ITA-1910 |
|---|---|---|---|
| CPU | Intel® Celeron® Processor J1900 | Intel® Celeron® Processor J1900 | Intel® Atom D525 1.8 GHz |
| Memory | 2GB/ 4GB/ 8GB DDR3 | 2GB/ 4GB/ 8GB DDR3 | 1GB/2GB DDR3 |
| Graphics | 2 VGA or VGA+LVDS (or VGA+DVI) | 2 VGA or VGA+LVDS (or VGA+DVI) | 2 VGA |
| Ethernet | 2X GbE LAN | 2X GbE LAN | 2X GbE LAN |
| Expansion | 1X Mini PCIe | 1X Mini PCIe | 1X MiniPCIe; 2X PCIeX1; 1X PCI |
| Storage | 1X 2.5"HDD<br>1X CF, 1X M- Sata<br>1X Sata DOM or Sata Slim | 1X 2.5" HDD<br>1X CF, 1X M- Sata<br>1X Sata DOM or Sata Slim | 1X 2.5" HDD<br>2X CF<br>1X Sata DOM or Sata Slim |
| Power Supply | DC 9V-36V input | DC 9V-36V input | DC 9V-36V input |
| Operating Temperature | -25~60 °C (with/ SSD) | -25~60 °C (with/ SSD) | -25~60 °C (with/ SSD) |
| I/O Interface | | | |
| Dimension | 190 mm / 70 mm / 200 mm | 190 mm / 100 mm / 200 mm | 190 mm / 100 mm / 315 mm |

| | EKI-3525/EKI-3528 | | |
|---|---|---|---|
| Description | 5/8-port 10/100Mbps Unmanaged Industrial Ethernet Switch | Operation Temp. | -10~60 °C (14~140 °F) |
| Ports Number | 5/8 | Certificates | CE, FCC, UL/cUL 60950-1 |
| Interface | 10/100 Base- T(X) | Dimension | 85.3 mm / 120 mm / 28.5 mm — 85.3 mm / 120 mm / 44.5 mm |
| Power | 12~48VDC | | |
| IP Level | IP40 | | |
| Protection | ESD (Ethernet), Surge (EFT for power), Power Reverse | | |

# Automatic Fare Collection

**Gate**

**ITA-1711**
Celeron J 1900
Gate Controller

## Automatic Gate Machine

### System Requirement

ITA-1000 Series AFC Controller has played an important role in metropolitan automated fare collection systems (AFC) in China, Europe, and other regions. It meets the needs of urban metro and train stations and has been a great success worldwide, from Shanghai, to Singapore, to Milan. During peak hours, automated gate machine must serve as stable, easily maintained system to manage and maintain a steady flow in the volume of commuters. Automated gate machine ought to be stable and equipped with value-added system feature to protect against memory/data losses caused by power disturbances. ITA-1000 Series AFC Controller's design and F-RAM trait explain why many of our clients and partners have chosen ITA-1000 Series AFC Controller on gate machine application.

## Ticket Vending Machine

### System Requirement

ITA-1000 Series AFC Controller possesses a rich complement of I/0 interfaces that cater to the use of ticket vending machines (TVM), which integrates an LED display, bill identification equipment, LCD screen, touch panel, and coin charger. Since going to production, ITA-1000 Series has gained support from numerous system integrators, and has been widely deployed in hundreds of TVM systems worldwide. TVM systems must run 24/7 in tough working environments which include temperature extremes and impact from dust. Hence, ITA-1000 Series AFC Controller has been engineered with enhanced thermal flow. A fanless and hermetic design also greatly reduces the impact from dust and helps the systems overcome the challenges faced by their working environments.

EKI-3728
Unmanaged
GbE Switch

EKI-3725
Unmanaged
GbE Switch

ITA-1611
Celeron J 1900
TCM Controller

TCM

EKI-3525
10/100Mbps Unmanaged
Industrial Ethernet Switch

EKI-3525

ITA-1910
Atom D525
TVM Controller

TVM
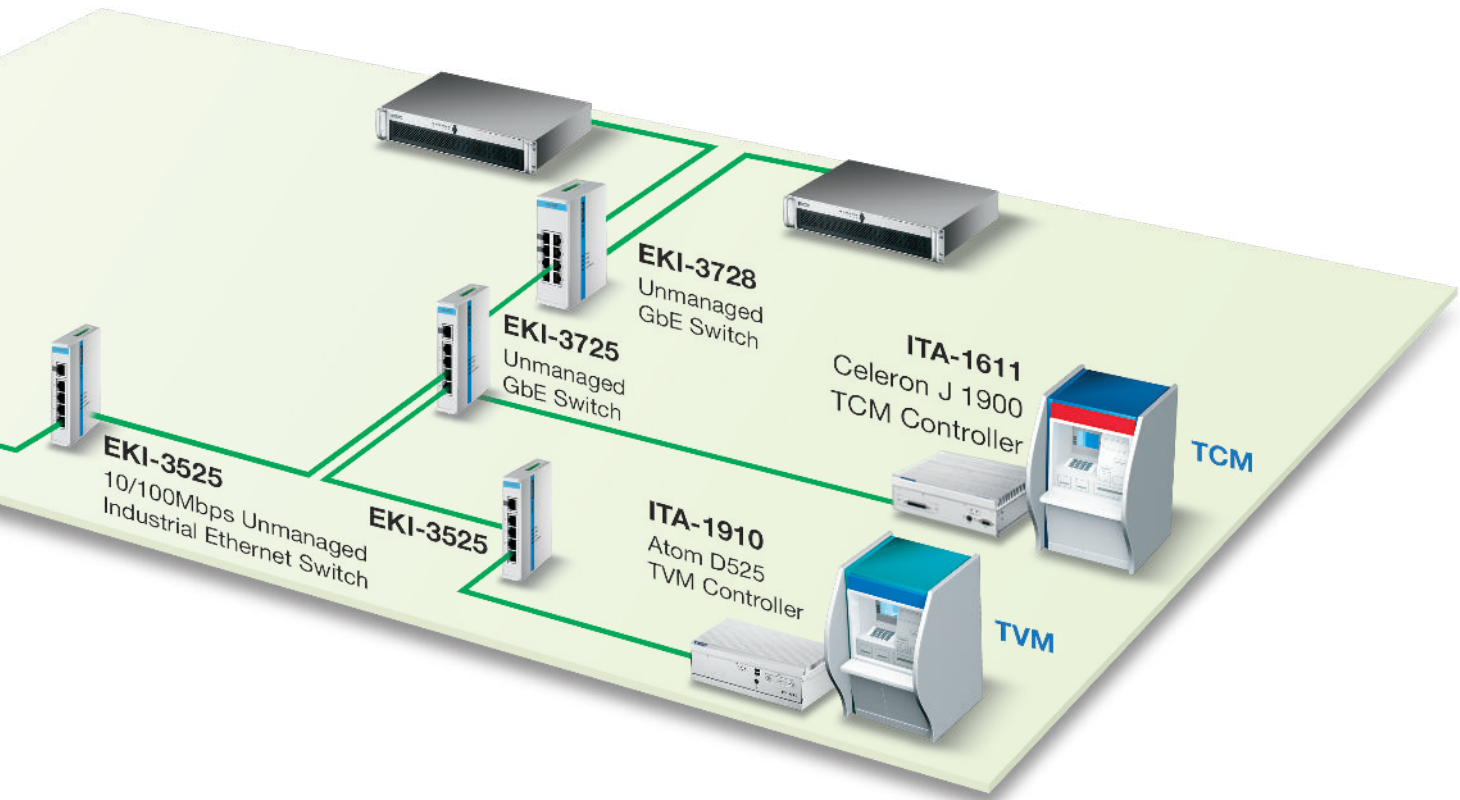
## Ticket Kiosk and Checking Machine

### System Requirement

ITA-1000 Series AFC controller is a compact, lightweight system designed for ticket kiosk and checking machine (TCM). TCM substantially benefits passengers by providing travel guidance, train schedule, and seat verification in addition to dispensing tickets. with connection to the Internet, LED screen and other. compact size, cost-effective and stable traits, ITA-1000 Series AFC controller is the best choice for TCM application.

In the past few years, customers have had great success in the deployment of ITA-1000 Series AFC Controller for TCM solutions, especially in both Asia and European market. With its compact size and stable characteristics, the series will always be the best choice for TCM product offerings.

## Industrial Ethernet Switches for AFC Systems



EKI-3525          EKI-3528

### EKI-3000 Series

To enhance system performance and reliability, Advantech's EKI-3000 series industrial-grade switches with their reasonable price and reliable quality are perfect for fare collection systems. This new generation Industrial Ethernet Switch creates a bridge between devices and network, its Ethernet ports, which support high-speed data transfers (100 Mbps for EKI-3525 and EKI-3528/ Gigabit for EKI-3725 and EKI-3728) for each port, are responsible for connecting the main board, hard disk and diverse devices in fare equipment to collect more data while sending back to control center. The robust features of EKI-3000 series includes dual power input (8.4~52.4 VDC) and wide operating temperature range (-10~60°C) are dedicated to operating in areas of unstable power and rugged environments therefore ensure a reliable and uninterrupted operation for a fare collection system.
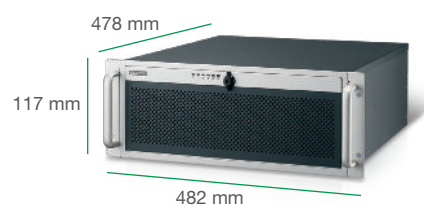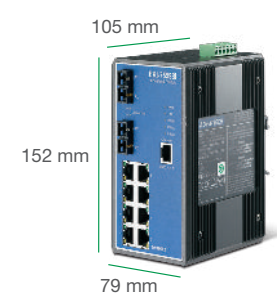
# Station Management

Station Management is an integrated platform that consists of Integrated Supervisory Control System (ISCS), Fire alarm system (FAS), Building Automation System (BAS) and others. Station Management System, due to its complicated systems, requires stable and scalable hardware to keep it well-functioned 24/7. Advantech's industrial and server-grade systems are well-known for ruggedized features and wide expansion which play indispensable roles in this specific application.

# Station Management Offerings

- Ruggedized design
- Stable and scalable systems for I/O expansions
- Configuration to order services with integrated and compatible platforms

| | IPC-610H+AIMB-784 | ACP-4340+ASMB-784 |
|---|---|---|
| CPU | Intel® Core i7/i5/i3 3.1GHz | Intel® Xeon E3 Core i7/i5/i3 |
| Memory | Dual Channel DDR3<br>Max 32GB | Dual Channel DDR3<br>Max 32GB |
| Graphics | 1X VGA<br>2X DVI-D | 1X VGA<br>2X DVI-D |
| Ethernet | 2X GbE LAN | 4X GbE LAN |
| Expansion | 4X PCI<br>1X PCIeX1<br>1X PCIeX4<br>1X PCIeX16 | 3X PCI<br>2X PCIeX1<br>1X PCIeX16 |
| Storage | 1X 3.5" Drive Bay<br>3X 5.25 Drive Bay | 4X 3.5" HDD Removal Tray<br>1X Slim ODD |
| Power Supply | AC 100-240V or DC 110V Single or Dual Power | AC 100-240V or DC 110V Single or Dual Power |
| Operating Temperature | 0~40 ℃ | 0~40 ℃ |
| Dimension | <br>479 mm / 117 mm / 482 mm | <br>478 mm / 117 mm / 482 mm |

| | EKI-7559SI | | |
|---|---|---|---|
| Description | 8+2 SC Type Fiber Optic Managed Industrial Ethernet Switch with Wide Temperature | Operation Temperature | -40~75 ℃ (-40~167°F) |
| Interface | • Ports Number: 10<br>• 10/100Base-T (X): 10<br>• 100BaseFX: 2<br>• Console: v | Certification | CE, FCC, UL/cUL 60950-1, Class 1, Division 2 |
| Network Management | • Redundancy: v  • Diagnostics: v<br>• VLAN: v  • Configuration: v<br>• SNMP: v  • Security: v<br>• Traffic Control: v | Dimension | |
| Power | • 2 x Unregulated 12~48 V$_{DC}$: v<br>• Relay Output: v | | <br>105 mm / 152 mm / 79 mm |
| Mechanism | • Mounting: DIN-rail Mount, Wall Mount<br>• IP Level: IP30 | | |
| Protection | ESD (Ethernet), Surge (EFT for power), Power Reverse | | |

# Station Management
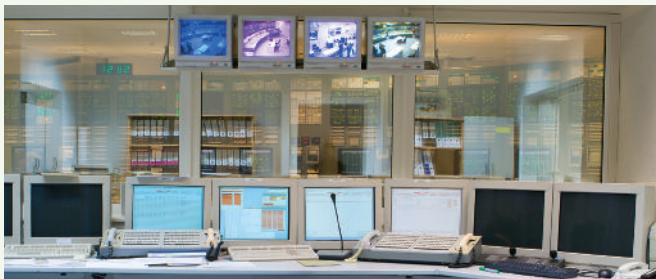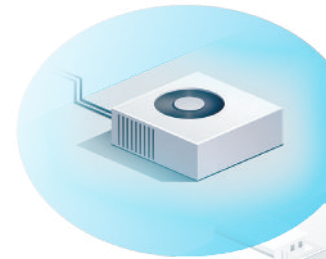
## Integrated Supervisory Control System
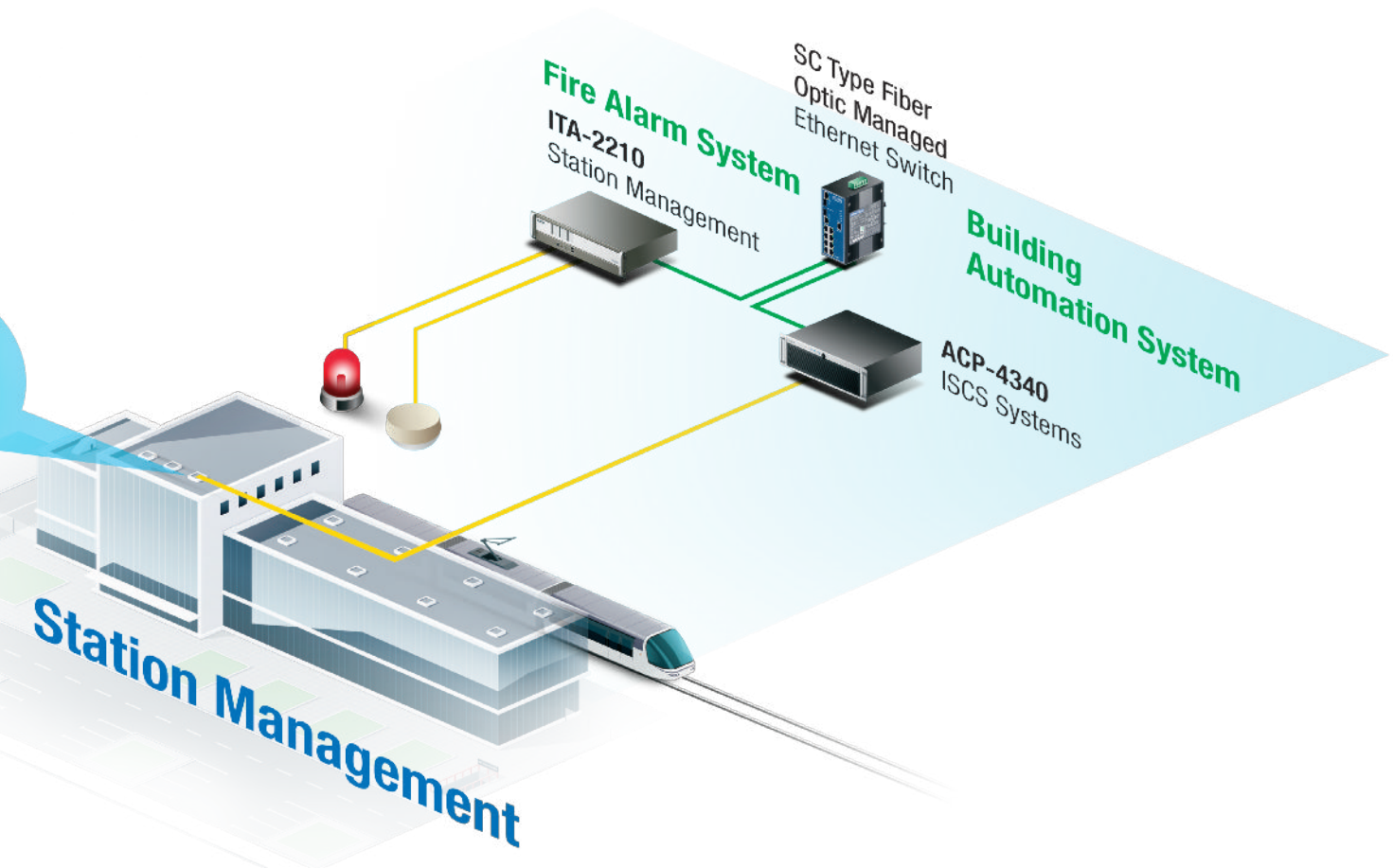
### System Requirement

An Integrated Supervisory Control System (ISCS) refers to the various dimensions of a railway operation's control center to ensure an efficient and smooth railway deployment; an integrated Station Management System (SMS) for monitoring activities such as power, signal and environmental control systems at stations; and a Plant Management System (PMS) where all sub-system interfaces between Central Management (CMS) and SMS are well-connected. Given the scope, each system must function without failure 24/7, in order to deliver critical information and emergency response solutions. The systems must be built on a platform of reliable hardware and software, such as a redundant, real-time server and allow for remote control access. Advantech's industrial-grade PC and ITA-2000 Series wayside controllers are specifically designed to cater to these conditions with rich I/O interfaces that meet the requirements for an ideal ISCS solution.

## Fire Alarm System

### System Requirement

Fire Alarm Systems (FAS) play a critical role in station management for monitoring to prevent hazards, to receive warning signals and alarms, and to issue disaster response commands. The FAS can be divided into central and station-level functions. When a fire breaks out, the central FAS serves as a control center, automatically collecting, displaying, recording and storing information for file processing and management. The station-level control system can be activated to issue evacuation orders and implement disaster response commands. The FAS is able to provide information and resources via a LAN connection, as well as implement and direct disaster response, which in turn substantially enhances the safety of subway stations.

**Fire Alarm System**
ITA-2210
Station Management

SC Type Fiber Optic Managed Ethernet Switch

**Building Automation System**

ACP-4340
ISCS Systems

Station Management



## Building Automation System

### System Requirement

Building Automation System (BAS) is controlled by stable and integrated computing platforms in the modern railway. Station management consists of various systems including control elevators, escalators, lights, room temperature and others where Systems can be activated or maintained by industrial computers 24/7 based on pre-set up data. Embedded with Advantech remote control management software, SUSIAccess, BAS is capable of monitoring current status of systems including automatic alarm and  health check to reduce system downtime and maintenance. Also, it enables BAS to active control when systems are on-duty for further troubleshooting. The well-maintained escalators and room temperatures in rail station provide comfortable experiences to end-users. All devices or facilities within stations can be managed by Advantech systems and indeed, Advantech has already created several successful cases in this application in Asia and Europe.

## Industrial Ethernet Switches for Station Management



EKI-3525                                             EKI-7559SI

### Fiber Optical Managed Switch Series and EKI-3000 Series

The wayside control system requires high  safety and stability considerations. For such systems, products need to connect multiple RS-485 serial devices to an Ethernet network without building the dedicated transmission line, and offer an easy way to set up a redundant Ethernet network for backup connection. By using the EKI-1500 Series Serial Device Servers to connect on-site serial device via RS-485, the engineering staffs can use the computer in the control room to monitor the condition of protective relays so as to further control RTU.

The EKI-7000 Series Ethernet Switch provides an easy way to establish a redundant network with a recovery time of less than 20ms. These two product lines both support wide operating temperatures (-10~60°C) to withstand outdoor environment, and their metal shielded enclosure with robust design not only protects the product but also eliminates the problem of interference.
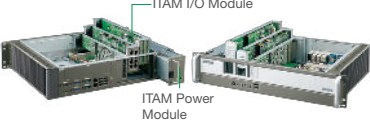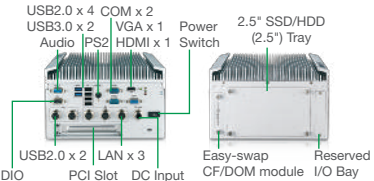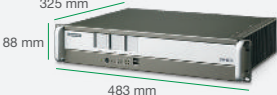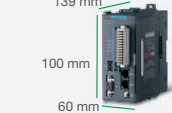
# Wayside Control

Fully Compliant with
**EN 50121-4**

ITA-2000 Series are designed and functioned as front-end wayside controllers. Due to compliance with EN 50121-4, ITA-2000 series are the most suitable offerings in terms of wayside controllers for various systems including centralized traffic control (CTC), Automatic Train Control (ATC) and others. With EN 50121-4 compliance and development of rock solid Advantech systems and platforms, applications in wayside control are precisely monitored, delivering a more secure railway operating environment. Fire Alarm System and others.
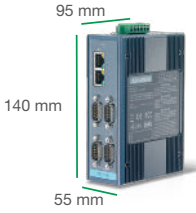
# Wayside Controller Offerings

- Fully Compliant with EN 50121-4
- Wide Operating Temperature: -40~70 °C
- Support Easy-Swap Power Module
- A Rich I/O Connectivity of Serial Connection and Ethernet

| | ITA-2210/2230 | ITA-5730 | APAX-5620 |
|---|---|---|---|
| CPU | Intel® Atom D525/ Intel Core i7-3555LE | Intel® Core™ i7-3555LE/Intel Core™ i3-3217UE | XScale PXA270 520 MHz |
| Memory | On board 2GB DDR3 800/ 4GB DDR3 1600 | DDR3 Max 4GB | Flash 32 MB, SDRAM 64 MB |
| Graphics | 2X VGA (ITA-2210) 1X VGA, 1X HDMI (ITA-2230) | 1X VGA 1X HDMI | 1 x VGA |
| Ethernet | 2X GbE LAN | 3X GbE M12 Connector | 2 x LAN ports |
| Expansion | 1X PC104 1X Mini PCIe 3X ITAM Slot | 1X Mini PCIe Socket (full size) 1X Mini PCIe Socket (full/half size) 1X PCI (Short Card) | - |
| Storage | 2x2.5"HDD or 1x3.5"HDD | 1X 2.5" HDD; 1X CF; 1X SATA Onboard | 1 x CF Slot |
| Power Supply | AC 100-240V or DC 110V Single or Dual Power | DC 24V/48V/72V/110V input | AC 100~240V DC24V |
| Operating Temp. | -25~60 °C | -40~70 °C | -10~55 °C |
| I/O Interface | | | |
| Dimension | | | |

| | EKI-7659CI | | |
|---|---|---|---|
| Description | 8+2G Combo Port Gigabit Managed Redundant Industrial Ethernet Switch | Protection | ESD (Ethernet), Surge (EFT for power), Power Reverse |
| Interface | Ports Number: 10  10/100/1000Base-T (X): 2 1000Base-SX/LX/LHX/XD/ZX/EZX: 2 10/100Base-T (X): 8  Console: v | Operation Temp. | -10~60 °C (14~140 °F) |
| | | Certification | CE, FCC, UL/cUL 60950-1 |
| Network Management | Redundancy: v  Diagnostics: v  VLAN: v Configuration: v  SNMP: v  Security: v Traffic Control: v | Dimension | |
| Power | 2 x Unregulated 12~48 VDC: v  Relay Output: v | | |
| Mechanism | Mounting: DIN-rail Mount, Wall Mount IP Level: IP30 | | |

| | EKI-1524I | | |
|---|---|---|---|
| Description | 4-port RS-232/422/485 Serial Device Server | Certificates | Class 1 Division 2 Group ABCD T4, UL/cUL 60950-1, CE, FCC |
| Interface | No. of Ethernet Port: 2  No. of Serial Port: 4 Ethernet Interface: 10/100 Mbps Serial Type: RS-232/422/485 | Dimension | |
| Connector | Ethernet: RJ45  Serial: DB9 Male | | |
| Baud Rate | 50 bps ~ 921 kbps, any baud rate setting | | |
| Operating Mode | VCOM, TCP Server/Client, UDP Server/Client, AT Command, and RFC2217 | | |
| Driver | 2-bit/64-bit Windows 2000/XP/Vista/7/8, Windows Server 2003/2008, Windows CE 5.0, and Linux | | |

# Wayside Control

**Fully Compliant with EN 50121-4**

*Automatic Train Control System*

## Automatic Train Control
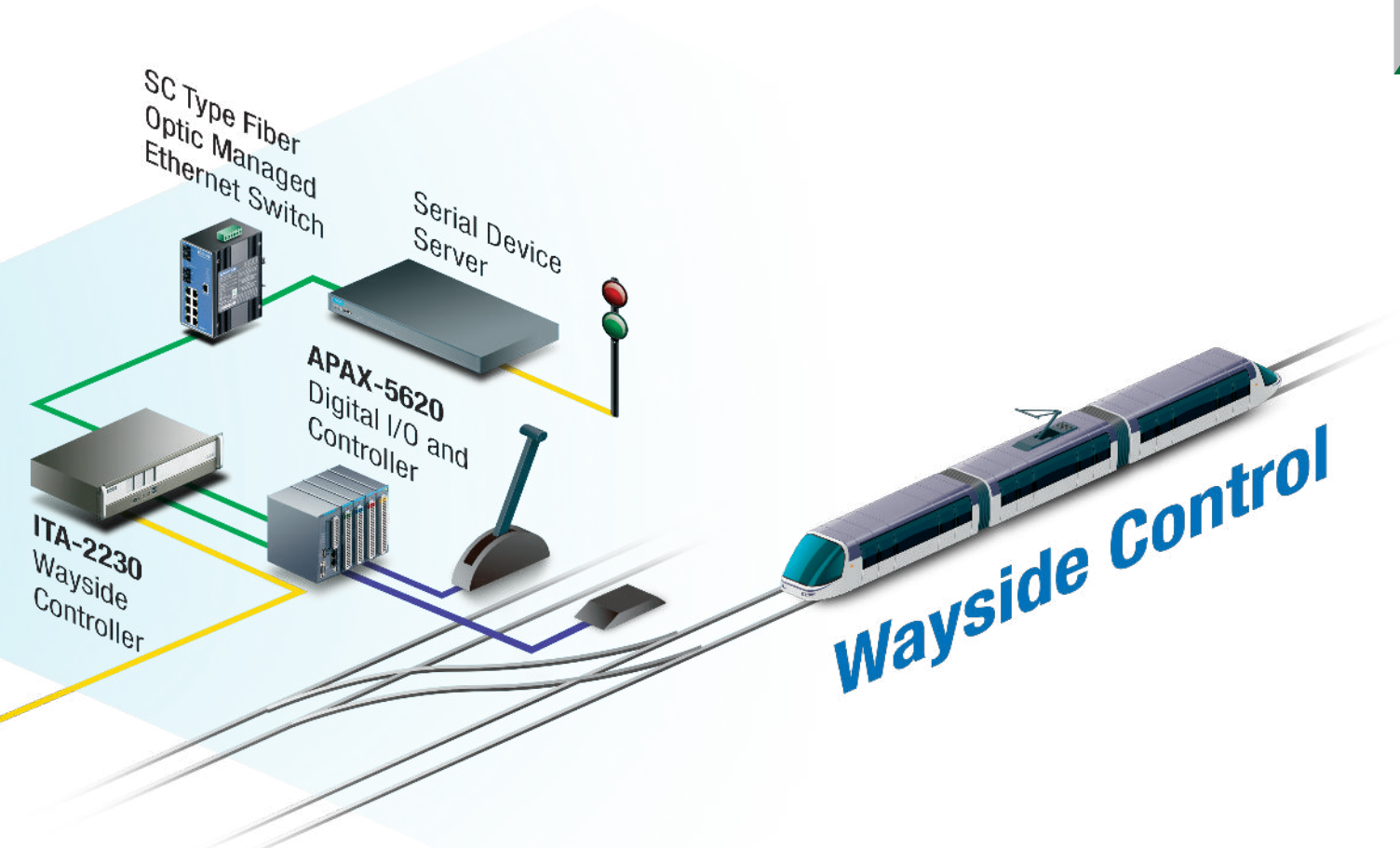
### System Requirement

Automatic Train Control (ATC) plays a critical role in railway transportation by detecting the positions of rolling stock at specific times, controlling the speeds of trains, and supervising real-time operating conditions. ATC generally consists of Automatic Train Protection (ATP), Automatic Train Operation (ATO) and Automatic Train Supervision (ATS); it makes use of track detectors, signaling devices and interlocking systems to assure the maintenance of minimum safe distances between operating trains. ATC requires total, integrated systems that compute and control positions of railway vehicles, set up routes and identify rail status, display and manage the synchronous station data information, and examine each locomotive or car when it comes to a stop at a station. In China, an array of Advantech product offerings has been applied to rail traffic, and a number of success stories have been generated that illustrate ever increasing safety for rail transportation.

## Centralized Traffic Control

### System Requirement

Centralized Traffic Control (CTC) refers to an integrated, stable system that is responsible for collecting and displaying current status of all operating stock, railways, and stations, distributing back-up equipment or power for emergency situations, and connecting the interfaces and structures of sub-systems, e.g. Interlocking, Automatic Train Control, and others. CTC, as its name indicates, is a platform where station managers or other staff direct and control rolling stock in a focused, effective manner. At the station-level, the CTC system records every train passing by the station with its number, exact arrival and departure time; at the central level, CTC displays the positions of trains on their tracks, records detailed status of stations, and in turn delivers commands on the basis of collected data. Accordingly, the function of CTC is to control sub systems in terms of train operation. Advantech is proud to supply the stable, reliable, integrated platforms that cutting edge railway operations rely upon.

SC Type Fiber
Optic Managed
Ethernet Switch

Serial Device
Server

**APAX-5620**
Digital I/O and
Controller

**ITA-2230**
Wayside
Controller

*Wayside Control*

## Interlocking

## Industrial Communication Solutions for Wayside Control

EKI-7659C

EKI-1524

EKI-1522

### System Requirement

Interlocking is controlled by stable, integrated computing systems in the modern railway; it conforms all signaling and route locks to logical patterns, offering high levels of safety and activating comprehensive diagnostics that automatically report to maintenance staff. SSI comprises Central Interlocking (CI) and Trackside Function Modules (TFM). CI attains fail-safe interlocking control via logic circuits, while TFM executes signaling or route locking once it receives CI commands. SSI is the paramount device that operates route locking, proximity switches, and more to keep operating trains going the right way on the right tracks based on preinstalled parameters; this precludes the collisions or derailments that used to occur because of human errors. Now, with the development of rock solid Advantech systems and platforms, SSI is precisely controlled and monitored, delivering a more secure railway operating environment.

### EKI-1500 Series and EKI-7000 Series

Wayside control systems require a high degree of safety and stability. For such systems, products need to connect multiple RS-485 serial devices to an Ethernet network without building a dedicated transmission line, and offer an easy way to set up a redundant Ethernet network for a backup connection. By using EKI-1500 Series Serial Device Servers to connect on-site serial device via RS-485, the engineering staff can use the computer in the control room to monitor the condition of the protective relay so as to further control the RTU. On the other hand,the EKI-7000 Series Ethernet Switch provide an easy way to establish a redundant network with a recovery time of less than 20ms. These two product lines both support a wide operating temperature (-10~60°C) to withstand an outdoor environment, and their metal shielded enclosure with robust design can not only protect the product but  can also eliminate the problem of interference.

# Rolling Stock System

ITA-5000 Series are Advantech's product offerings that specifically cater to rolling stock's application including passenger information system, broadcasting system a, surveillance system and so on. All ITA-5000 Series have met the requirement of EN 50155 and have been employed M12 connectors to enhance shock and vibration resistance as railway is operating. ITA-5000 Series and EKI (Ethernet switch) provide the best solution in rolling stock system.

# Rolling Stock System Offerings

- Fully compliant with EN 50155 EN 45545
- Temperature standard: EN 50155 TX (-40~70 °C)
- Compliant with EN 50121-3-2 EMC test standard
- Ruggedized M12 Connectors
- DC 24V/ 48V/ 72V/ 110V Input
- Support Easy-swap HDD/ SSD/ CF module

| | ITA-5710 | ITA-5730 | TPC-8100 |
|---|---|---|---|
| CPU | Intel® Atom D525 | Intel® Core™ i7-3555LE/Intel Core™ i3-3217UE | Intel® Cedar Trail Dual core processor 1.6G |
| Memory | DDR3 Max 2GB | DDR3 Max 4GB | DDR3 Max 4GB |
| Graphics | 2 x VGA or VGA + LVDS (Optional) | 1X VGA<br>1X HDMI | Integrated Intel GMA 3600 series, support DirectX 9 and OpenGL3.0 support HW Accelerated Decode: MPEG2, H.264, VC-1 |
| Ethernet | 2X GbE M12 Connectors | 3X GbE M12 Connectors | 2X GbE M12 Connector |
| USB | 2X USB2.0 M12 Connector | 2X USB2.0 M12 Connector | |
| Expansion | 1X Mini PCIe socket(full size)<br>1X Mini PCIe socket (full/half size)<br>1X PCI (Short Card) | 1X Mini PCIe Socket (full size)<br>1X Mini PCIe Socket (full/half size)<br>1X PCI (Short Card) | - |
| Storage | 1X 2.5"HDD<br>1XCF | 1X 2.5" HDD<br>1X CF<br>1X SATA Onboard | Built in 16G CFast card |
| Power Supply | DC 24V/48V/72V/110V input | DC 24V/48V/72V/110V input | 110 $V_{DC}$, 96 $V_{DC}$, 72 $V_{DC}$, 48 $V_{DC}$ (option), 37.5 $V_{DC}$ (option), 24 $V_{DC}$ (option) |
| Operating Temperature | -40~55 °C | -40~70 °C | -30~70°C |
| I/O Interface |  |  |  |
| Dimension |  |  |  |

| EKI-6558TI | | | | |
|---|---|---|---|---|
| Description | EN50155 IP67 8-port M12 Managed Ethernet Switch with Wide Temperature | | Protection | ESD (Ethernet), Surge (EFT for power), Power Reverse |
| Interface | Ports Number: 8<br>Console: v | 10/100Base-T (X): 8 | Operation Temp. | -40~-75 °C (-40~158 °F) |
| Network Management | Redundancy: v<br>VLAN: v<br>Traffic Control: v<br>SNMP: v | Diagnostics: v<br>Configuration: v<br>Security: v | Certificates | CE, FCC, UL508 |
| Power | 2 x Unregulated 12~48 $V_{DC}$: v<br>Relay Output: v | | Dimension |  |
| Mechanism | Mounting: Wall Mount | IP Level: IP67 | | |

# Rolling Stock System

LCD TV

*Rolling Stock*

## Rolling Stock Passenger Information System (PIS)
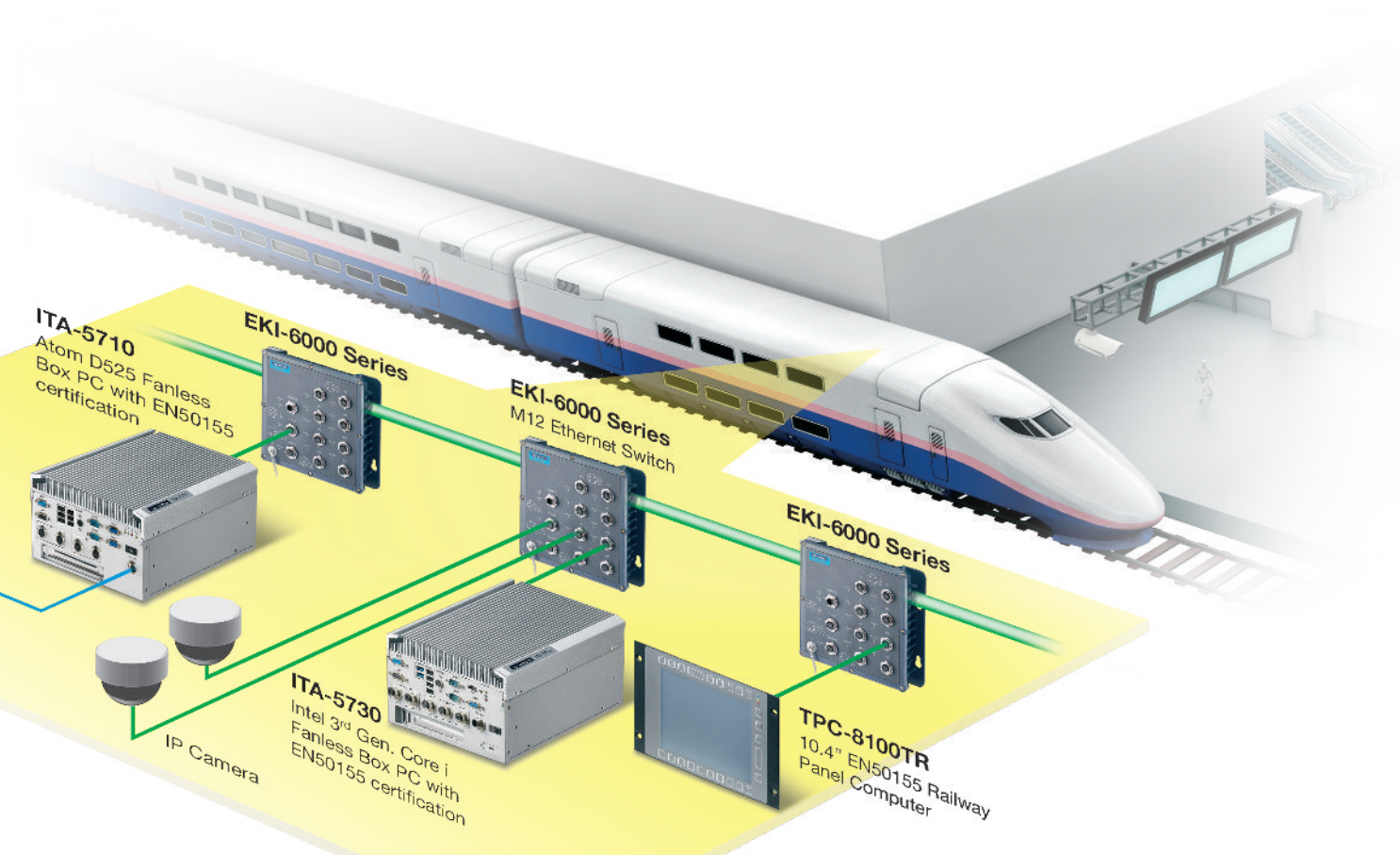
### System Requirement

Passenger information systems (PIS) provide weather forecasts, rail speed, arrival times and other information to riders. They are an important asset for travelers and commuters. An ideal passenger information system has the following attributes: it is stable, lockable (M12 connectors), EN 50155-certified and easily maintained.  Advantech's ITA-5000 Series has met all of these requirements. In addition, the ITA-5000 series supports large storage capacity, allowing it to interconnect to all types of media devices, and serves as a hub for media broadcasting as well as entertainment content for rail passengers. A PIS system should be homed in a data center where all the information is collected and transmitted. A high performance and stable system cannot be overemphasized when it comes to designing a robust passenger information system. ITA-5000 series is best PIS integrator for use in rolling stock applications.

## In-train Surveillance System

### System Requirement

The ITA-5000 series provides a surveillance system solution for use in railway applications. It helps maintains passenger security under the supervision of a station master. During duty, the situation of each train carriage is recorded by IP cameras and transmitted over a network switch to a control unit which displays real-time and high definition images so that management can concurrently supervise the condition of each train car. ITA-5000 series is EN 50155-certified and equipped with M12 connectors to keep I/O connections firm and solid during rail operation. In addition, the ITA-5000 series can operate in a wide range of temperatures, assuring passenger security by providing a functional, stable surveillance system. ITA-5000 series is an integrated, railway-designed system that meets the demanding needs of rolling stock applications.

ITA-5710
Atom D525 Fanless
Box PC with EN50155
certification

EKI-6000 Series

EKI-6000 Series
M12 Ethernet Switch

EKI-6000 Series

ITA-5730
Intel 3rd Gen. Core i
Fanless Box PC with
EN50155 certification

TPC-8100TR
10.4" EN50155 Railway
Panel Computer

IP Camera

## EN 50155 Railway Panel PC

### System Requirement

Designed for use in the extreme conditions of the world's railways, the TPC, 10,4" TFT panel computer, helps locomotive engineers stay informed of the status of their trains and features optical bonding all-around IP65 protection, conformal coating of the internal boards, and an extended temperature range. TPC provides higher reliability for highly-changeable, atmospheric conditions of railways, such as altitude, pressure, and temperatures. This TPC has two Ethernet ports, serial interfaces, USB ports and built-in CFast devices. The railway power module design supports a 10 ms interruption (EN50155, S2), EMI EN55022 CLASS A filter, and over/short current protection for its railway application. The method of mounting is also designed especially for locomotive installations and also complies with EMC, shock and vibration test requirements of European standard EN50155 and EN45545 for railway applications.

## M12 Industrial Ethernet Switches for Onboard Train Communication



EKI-6000 Series

### EKI-6000 Series

Advantech's EN50155 certified M12 Switch fulfills a wide range of applications in moving trains as it guarantees reliable performance under vibration and shock. For passenger information systems (PIS) this allows modules to connect with LCD and LED display boards which offer travel information, news and advertisements. For in-seat video entertainment systems (VES) this offers video monitors mounted on the back of every seat. And for IP surveillance this guarantees these devices can reliably connect with cameras for a variety of applications that provide increased safety and security. Video surveillance system on a moving train requires unique considerations including power outlet locations, fluctuating voltages, underground tunnels, and synchronized data transmission and storage. To fit these requirements, equipments compliant with EN50155 standard are necessary and PoE based ethernet solution is a plus. EKI-6000 Series industrial Etherner Switches fit the requirements become the choice of such application.

# Traffic Management

ITA-3000 Series are Advantech's product offerings that target for Road Surveillance application. With the trend of urbanization, the numbers of vehicles on the road are increasing which indicates the need of road surveillance in city is mushrooming to keep the city safe 24/7. Advantech ITA-3000 Series, with the feature of high performance and wide operating temperature, they will be the best offerings for traffic management system.

# Traffic Management Offerings

- Exclusive for road surveillance
- Supports -25° ~ 60° C (-13 ~ 140° F) wide working temperature range
- Supports 9V to 36V wide range of DC inputs
- Easy-accessible CF/DOM module
- Anti-vibration test enhancement

| | ITA-3630 | ARK-2121V |
|---|---|---|
| CPU | Intel® Core™ i7/i5/i3 | Intel Atom E3825/E3845 |
| Memory | DDR3 Max 4GB | DDR3L Max 8GB |
| Graphics | 1X VGA<br>1X HDMI | 1X VGA<br>1X HDMI |
| Ethernet | 2X GbE LAN | 2X GbE LAN |
| Storage | 2X 2.5" HDD<br>or 2.5" HDD+ CF<br>1X mSATA Onboard | 4 x 10/100 Mbps (ARK-2121V-S9A1E only)<br>• 4ports full-load, IEEE802.3af Class 2 (7Watt)<br>• 2ports full-load, IEEE802.3af Class 3 (15.4Watt) |
| Power Supply | DC 9~36V input | 1x Hot-swappable 2.5" drive bay (Max 9.5mm height)<br>1x mini-PCIe slot for mSATA storage |
| Environment | -25~60 ℃ | DC 9~36V input with 1.5KV isolation |
| I/O Interface |  |  |
| Dimension |  |  |

| | EKI-7659CPI | | |
|---|---|---|---|
| Description | 8+2G Port Gigabit Managed Redundant Industrial PoE Ethernet Switch and wide Temperature | Mechanism | Mounting: DIN-rail Mount, Wall Mount<br>IP Level: IP30 |
| Interface | Ports Number: 10<br>1000Base-SX/LX/LHX/XD/ZX/EZX: 2<br>PoE (10/100 Mbps)    Console: v | Protection | ESD (Ethernet), Surge (EFT for power), Power Reverse |
| | | Operation Temp. | -40~75 ℃ (-40~167 ℉) |
| | | Certificates | CE, FCC, UL/cUL 60950-1 |
| Network Management | Redundancy: v    Diagnostics: v<br>VLAN: v          Configuration: v<br>SNMP: v           Security: v<br>Traffic Control: v | Dimension |  |
| Power | 2 x Unregulated 12~48 $V_{DC}$: v<br>Relay Output: v | | |

# Traffic Management


Electronic Toll Collection (ETC)



## Traffic Management Surveillance System
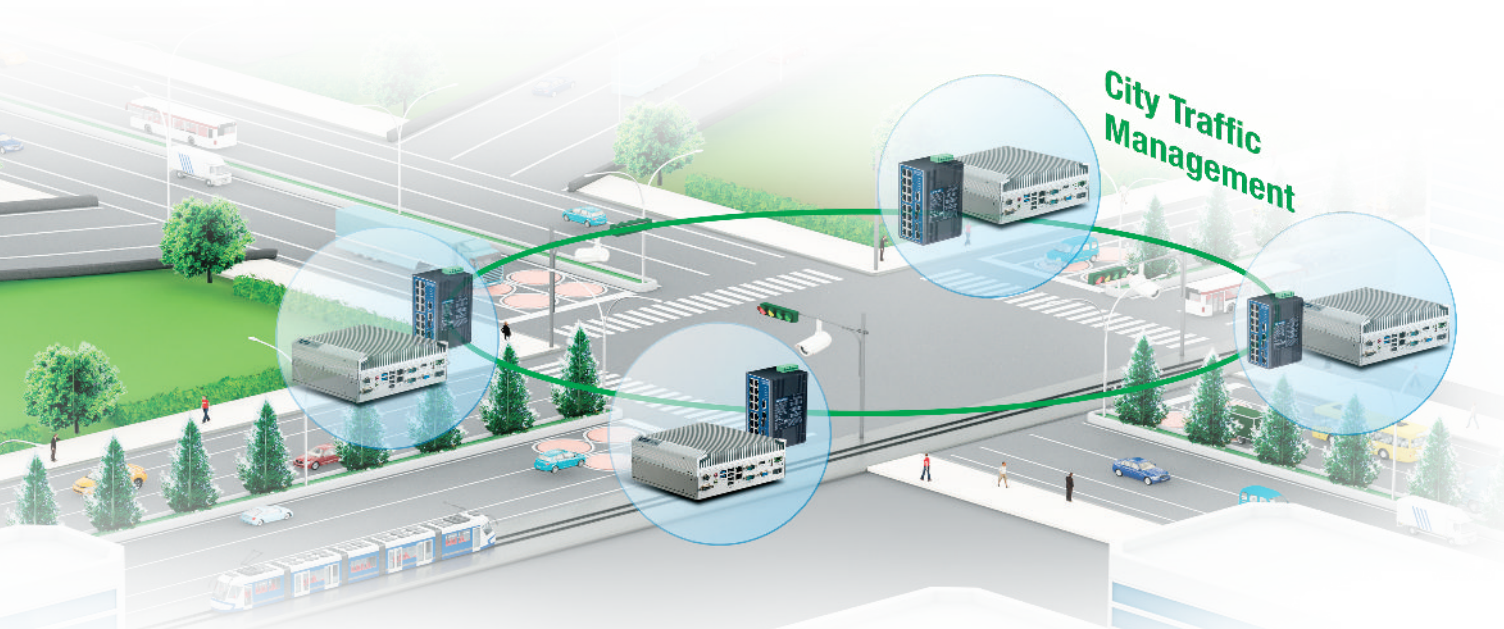
### System Requirement

ITA-3000 Series is one of Advantech's new traffic management product offerings that cater to road surveillance applications, which have become ever more vital as urbanization increases. Populations and their vehicles are gradually aggregating in cities, with attendant increases in car accident and crime rates. As a result, road surveillance is regarded as one of the paramount segments of municipal infrastructure. Take China as an illustration: The value and needs for road surveillance implementation in 2,000 cities and towns are worth more than $10 billion. Advantech and its eco-partner have foreseen the business opportunities and delivered solution packages in this vertical market.

In terms of surveillance application, ITA-3000 Series is well-known for its vibration resistance, its wide-range operating temperature, and the resulting resistance to harsh working environments. It is also known for high image processing performance. Besides, ITA-3000 Series's flexible I/O design assures quick customization for our global system integrators as they cater to their localized demands and needs.



## Electronic Toll Collection

### System Requirement

In the evolution from manual to electronic toll collection, the intelligent, high performance ITA-3000 Series system has helped substantially to decreased workforce requirements as well as assuring traffic flow on the highway, playing an indispensable role in expressway systems. ITA-3000 Series already has a great number of ETC success stories, especially in Greater China area and in Europe, resolving highway toll collection issues and enhancing commuting efficiency. The ITA-3000 Series with its anti-vibration design, operates under a wide range of temperatures and in extremely unfriendly environments. Its inherent robustness assures stable roadside function, and meets the demands of our partners and system integrators. In addition to stability, its high levels of processing and graphical performance make ITA-3000 Series the best solution for electronic toll collection applications. Cameras detect and record the license plates or e-tag every vehicle coming and going on the highway and transmit the data to processing centers, where road usage and appropriate tolls are calculated. ITA-3000 Series design features target ETC markets and provide an ideal solution.

City Traffic Management

## License Plate Recognition System



### System Requirement

When it comes to traffic management, a high performance, integrated system which is capable of identifying license plates is an indispensible tool for a traffic information center. Precisely detecting each vehicle license plate, whether coming or going, is the trend for the future in implementing electronic toll collections. This helps to decrease workforce requirements, decrease traffic violations and accidents, and to resolve issues effectively when car accidents occur. Therefore, it is important to have a system which can accurately detect, record, process, and transmit huge streams of license numbers 24/7, particularly at peak hours. In addition, it is more difficult to identify license plates during pouring rain or a snowstorm, when efficient traffic management control is even more crucial. ITA-3000 Series high-performance design overcomes these natural challenges and delivers precise license plate identification at all times.

## PoE Managed Switches for Surveillance



EKI-7659CPI

### EKI-7000 Series

To connect IP cameras across large, comprehensive and critical geographies and ensure secure and high bandwidth data transmission, Advantech's Gigabit Managed Redundant Industrial PoE Ethernet Switch and wide Temperature Switches are the best fit. As PoE devices help to realize a centralized power supply solution and provides up to 15.4 watts of power per port to power IP-based surveillance systems, fully Managed function allows network administrators from the control center to see the status and to manage multiple switches plus the Gigabit transmission speed ensures high quality and high speed images transmission. Advantech EKI-7659CPI supports 8 Power over Ethernet (PoE) ports and 2 Gigabit combo ports while its proprietary redundant network protocol offers advanced ring topology to reduce traffic down time and to provide faster recovery time which create reliability in the network.
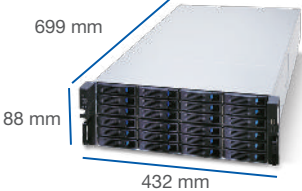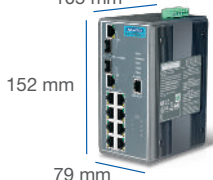
# Control Room

Transportation systems including control room systems aim at providing communication, security, surveillance, and technology that allow safe, convenient, and comfortable, efficient and environmentally friendly travel for all commuters. Many cities worldwide are in the midst of improving their control room systems, and Advantech is there to provide a helping hand, offering advanced product solutions comprising committed Industrial Server with flexible and high-performance, trusted Industrial Storage Appliance with reliable data protection and backup solution, and video wall controller, supporting 8 to 40-output solutions which make ideal solutions for system integrators.

# Control Room Offerings

- High-performance Server-grade IPC
- Trusted Industrial Storage with Data Protection
- Video Wall Controller Solutions
- Remote Manageability

| | AVS-541 | HPC-7442+ ASMB-784 | ASR-3472 |
|---|---|---|---|
| CPU | Intel® Xeon® E3 V2 | Intel® Xeon® E3 V3 | Intel® Xeon® E3 |
| Memory | DDR3 1333 MHz (ECC) UDIMM Max 16GB | DDR3 1600 MHz ECC Max 128GB | 4X 240 pin DDR3 Max 32GB |
| Graphics | 1XVGA | 1X VGA 2X DVI-D | 1XVGA |
| Ethernet | 2X GbE | 4X GbE LAN | 4X GbE LAN |
| Expansion | Support up to 20 display monitors | 3X PCI 2X PCIeX1 1X PCIeX16 | 3X PCI 2X PCIeX4 1X PCIeX16 |
| Storage | 3X 5.25" (Front accessible) 1X 3.5" Drive Bay 1X 3.5" Internal | 8X 3.5" Drive Bay | 24-bay (3.5"/2.5") |
| Power Supply | AC 115-230 V (Full Range) | AC 100-240 V (Full Range) | AC 100-240 V (Full Range) |
| Environment | 0~40 ℃ Operating | 0~40 ℃ Operating | 0~40 ℃ Operating |
| Dimension | 657 mm 177 mm 482 mm | 700 mm 88 mm 482 mm | 699 mm 88 mm 432 mm |

| EKI-7659C | | | |
|---|---|---|---|
| Description | 8+2G Combo Port Gigabit Managed Redundant Industrial Ethernet Switch | Mechanism | Mounting: DIN-rail Mount, Wall Mount IP Level: IP30 |
| Interface | Ports Number: 10      10/100Base-T (X): 8 10/100/1000Base-T (X): 2 1000Base-SX/LX/LHX/XD/ZX/EZX: 2 Console: v | Protection | ESD (Ethernet), Surge (EFT for power), Power Reverse |
| | | Operation Temp. | -10~60 ℃ (-14~140 ℉) |
| | | Certificates | CE, FCC, UL/cUL 60950-1 |
| Network Management | Redundancy: v          Diagnostics: v VLAN: v                  Configuration: v SNMP: v                  Security: v Traffic Control: v | Dimension | 105 mm 152 mm 79 mm |
| Power | 2 x Unregulated 12~48 V$_{DC}$: v Relay Output: v | | |

| EKI-2741F | | | |
|---|---|---|---|
| Description | 10/100/1000T (X) to Fiber Optic Gigabit Industrial Media Converters | Protection | ESD (Ethernet), Surge (EFT for power), Power Reverse |
| Interface | Ports Number: 2 10/100/1000Base-T (X): 1 1000Base-SX/LX/LHX/XD/ZX/EZX: 1 Console: v | Operation Temp. | -10~60 ℃ (-14~140 ℉) |
| | | Certification | CE, FCC, UL/cUL 60950-1, Class 1, Division 2 |
| Power | 2 x Unregulated 12~48 V$_{DC}$: v Relay Output: v | Dimension | 95 mm 140 mm 37 mm |
| Mechanism | Mounting: DIN-rail Mount, Wall Mount IP Level: IP30 | | |

# Control Room

Station Management

## Video Wall Controller System

### System Requirement

Benefiting from a new generation of video wall controllers loaded with multiple Matrox MuraTM MPX output/input graphic cards, display systems used in the control room can create large-scale and highly functional video walls to display any incoming video or data, such as VGA or DVI feeds from any of a range of sources: operator workstations running maps, Automatic Train Supervision (ATS), Automatic Train Protection (ATP), Automatic Train Operation (ATO) programs or Passenger Information System (PIS), platform live video CCTV feeds, set-top BOX HDMI feeds, etc. Broad video walls composed of multiple monitors provide the viewers with a large virtual desktop that can be easily manipulated in response to rapidly changing conditions. This helps to enhance situational awareness, which can be a crucial factor in executing safe and efficient transportation management.
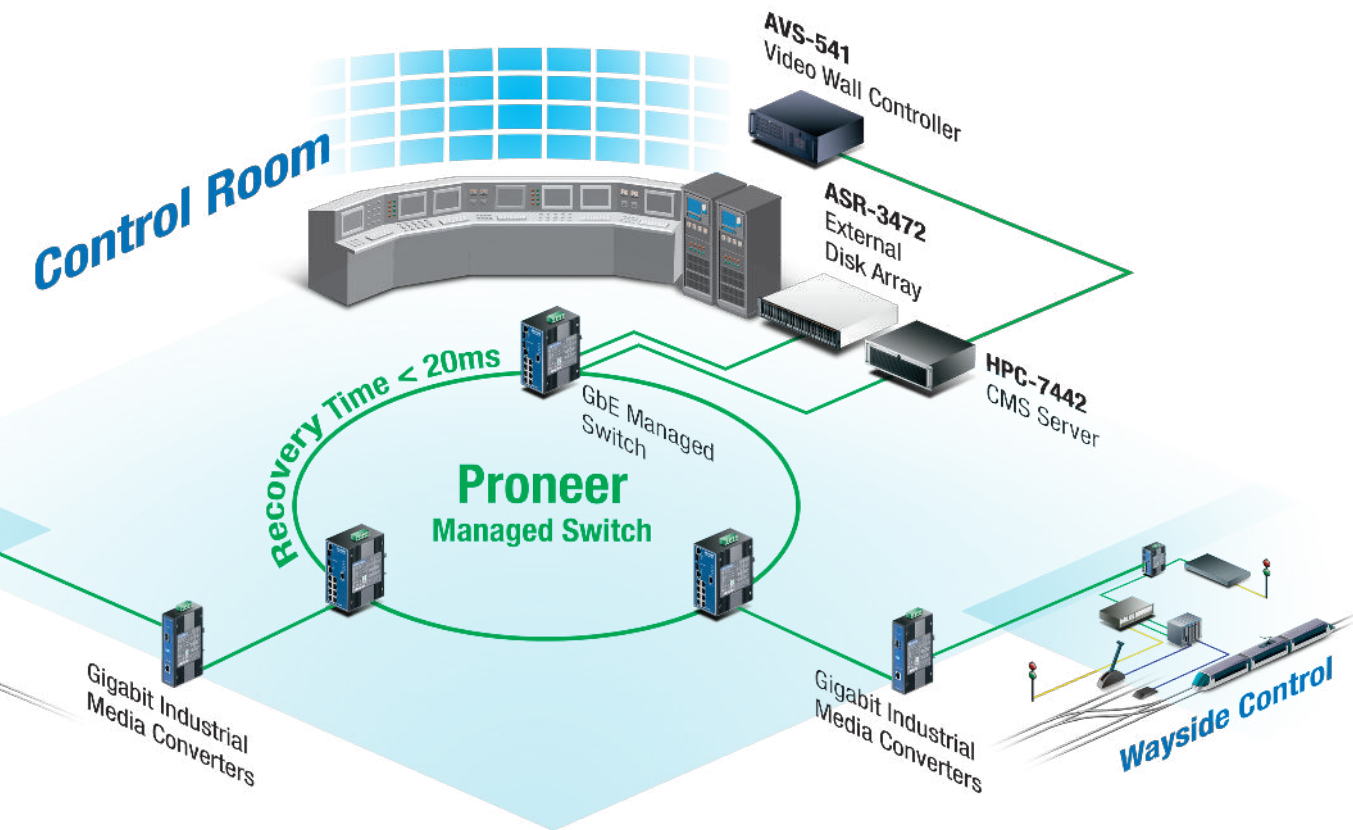
## Railroad PSCADA System

### System Requirement

For modern railroad systems, a reliable supply of electrical power is a matter of life and death. Power substations along rail lines transform voltage from the city grid into voltage suitable for trains. The equipment in these power substations requires close monitoring to ensure normal operations and security. Advantech Industrial Server are ideal for PSCADA applications as they are particularly rugged and durable, delivering massive computing performance and data storage capacity with power and networking redundancy, and most importantly, supporting remote control and management.

These features ensure the system can operate smoothly 24/7, with maximum security. This is important for monitoring railway power supplies, where there is no room for errors.

**Control Room**

AVS-541
Video Wall Controller

ASR-3472
External
Disk Array

HPC-7442
CMS Server

Recovery Time < 20ms

GbE Managed
Switch

**Proneer**
**Managed Switch**

Gigabit Industrial
Media Converters

Gigabit Industrial
Media Converters

**Wayside Control**



## NVR Storage Appliance

### System Requirement

A storage appliance aimed at recording and storage applications and ideal for surveillance applications for transportation etc. Built-in H/W RAID offers RAID levels 0, 1, 5, 6 and RAID SPANS 10, 50, 60. Also designed for an optional battery backup module (BBU) to provide strict data protection against data loss in the event of system power failure. Built-in quad LANs with teaming feature for NVR high demand bandwidth, expandable through JBOD system for scaling up HDD capacity. Advantech storage appliance solutions have comprehensive fault-tolerant capability with H/W RAID and online expansion capability via JBOD to ensure the highest possible data availability.

## Fiber Optic Gigabit Industrial Media Converters for Long Distance Data Transmission



EKI-7659C                                                    EKI-2741F

### EKI-7659C and EKI-2741F

Data transmission is critical to control room as massive information will be transmit to this system monitoring and controlling center. Advantech EKI-7000 Series Managed Switch is able to provide redundant Ethernet network with ultra high-speed recovery time less than 20ms to ensure information transmission reliability. Moreover, for modern surveillance system, images or videos taken from IP camera will need to be transferred to control room which is far from local devices. Under such circumstance, data transmission through fiber optical devices is the solution. Advantech EKI-2741F is designed to convert Gigabit Ethernet networks to Gigabit fiber networks by transparently converting Ethernet signals to optic signals. Therefore, EKI-2741 is an ideal solution for "fiber to building" applications at central offices or local sites to transfer data to control center.

# Remote Device Management Services

## Ensuring Manageability, Security and Connectivity

With the rise of the IoT, managing large quantities of equipment and devices through cloud technology has become a fundamental feature. In order to satisfy the real needs of applications, Advantech provides powerful, yet simple management software services in SUSIAccess, making it easier to manage your IoT devices. SUSIAccess features remote management functions and incorporates system security from McAfee and back-up recovery from Acronis to help customers centralize monitoring and management of remote embedded devices in real-time.

**SUSIAccess**
Enabling Intelligent & Embedded Systems

### SUSIAccess/ Remote Management

SUSIAccess features remote device monitoring through Intel AMT or OpenVNC to control devices with Power On/Off and Remote KVM (Keyboard, Mouse, and Monitor) in a flexible setting; so customers can easily manage devices via auto-notifications and respond quickly.
• Device Monitoring
• Remote Control
• Auto-Notification

### SUSIAccess+Security

In the IoT era, more and more embedded devices are becoming connected so sophisticated security is critical. SUSIAccess Security ensures your IoT devices are protected from cyber threats and attacks, including application whitelisting and change management using built in McAfee Whitelisting technology.
• Operation Protection
• Anti-virus
• Internet Security

### SUSIAccess+Recovery

Rapid Restore brings devices back to normal operation. Backup/Recovery is one of the efficient ways SUSIAccess leverages Acronis technology. The Backup/Recovery engine with remote control simplifies the scheduling mechanism for remote backup or recovery; all from a SUSIAccess centralized console.
• Remote Recovery
• Remote Backup
• Scheduled Backup

## Reducing Total Cost of Ownership

### System Monitoring

**Device Monitoring**
Device temperature, internet connection, CPU temperature, fan speed and voltage.

**Automatic Alerts by Email/SMS**
Administrators can get prompt notifications sent to their email inboxes or cell phones.

### Remote Control

**Remote KVM**
Quick access to remotely located, embedded devices for device diagnostics and repair.

**Power On/Off**
Sets the power on /off schedule for remotely located devices.

### Embedded Security

**System Recovery**
· Hot Backup
· Scheduled Backup
· One-Click Recovery
Powered by **Acronis**

**System Protection**
· White List Protection
· Warnings of any unauthorized activities
Powered by **McAfee**

### Multiple OS & Platforms

Windows Embedded
Linux
iOS
android

Handheld    Mobile Devices    Tablets

## Features and Function Highlights

Advantech SUSIAccess highlights three features for you to easily manage your devices.:
- Web-based structure : Administrators can perform equipment status through an internet browser at any time, from anywhere, using any connected device.
- Seamless HW/SW Monitoring for Complete Protection:SUSIAccessprovides a comprehensive device monitor and control includes both hardware temperatures, fan speeds, voltages, disks and softwareprogram status.
- User Friendly Map-view Interface: SUSIAccessprovides map-view interface and leverages Google and Baidumaps to help administrators locate and manage their devices more easily.
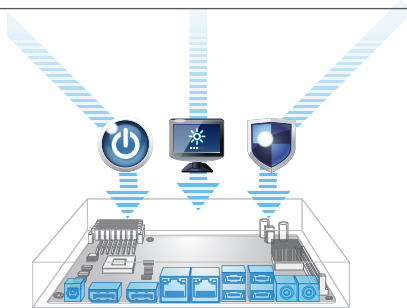
**System Monitoring** `Synchronized HW/SW`

**Remote Control** `Map-view`

**System Security**

**Multiple OS & Platform** `Web-based`

# SUSIAccess
**Enabling Intelligent & Embedded Systems**

## Saving 30% Deployment Costs
Preloaded with all Advantech Solutions, worry free compatibility & integrated software license fee.

## Saving 50% Maintenance Costs
Featuring Remote KVM and Intel® AMT integration to allow remote diagnosis and recovery in any situation, reducing on-site maintenance costs.

## 70% Time Saving
Real-time remote monitoring and proactive alarm notifications for instant support. Saves time on trouble shooting and ensures continued system health.
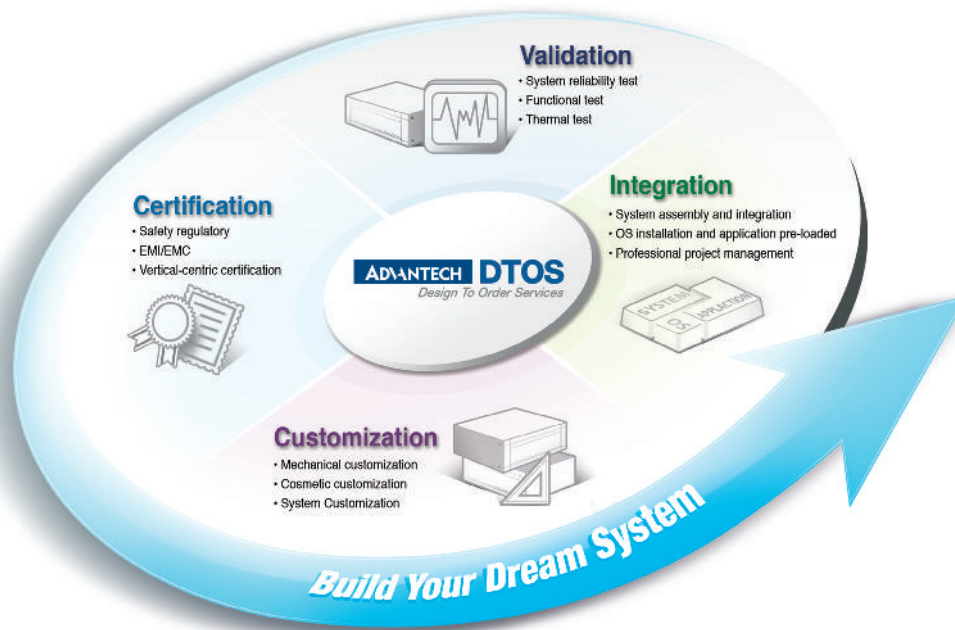
# 30-Day System Design to Order Service

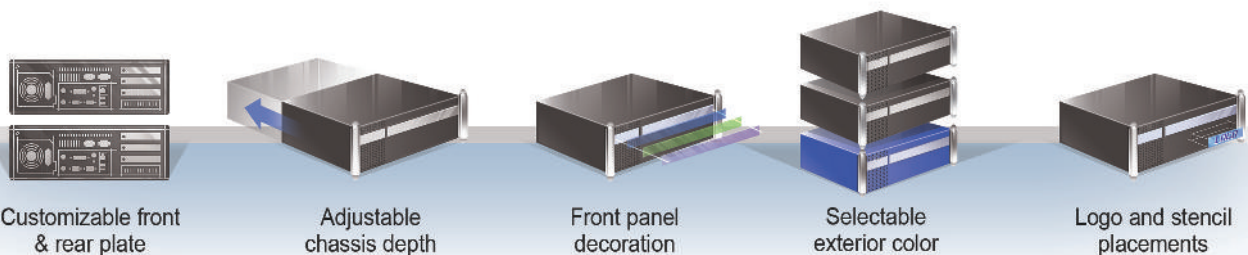## 30-Day Time-to-Market, Build Your Dream Systems

Advantech Design To Order Services (System DTOS) is a design service which provides tailor-made systems or boards to meet specific application requirements through advanced, innovative and world leading technologies, diverse levels of customization, flexibility of manufacture, and global technical & logistical support. Advantech DTOS offers you the advantages of faster project development, lower risk and the assurance of working with a trusted global leader for win-win solutions. With strict project workflow, integrated infrastructure, and highly proficient project development, we promise our customers a quality and speedy 30-Day Design To Order Services.

# 4-Step System Service Provider



**Validation**
· System reliability test
· Functional test
· Thermal test

**Integration**
· System assembly and integration
· OS installation and application pre-loaded
· Professional project management

**Certification**
· Safety regulatory
· EMI/EMC
· Vertical-centric certification

**Customization**
· Mechanical customization
· Cosmetic customization
· System Customization

ADVANTECH DTOS
Design To Order Services

Build Your Dream System

## Customize Your Own System in Your Way



| Customizable front & rear plate | Adjustable chassis depth | Front panel decoration | Selectable exterior color | Logo and stencil placements |

# Why System DTOS? Why 30-day?

## Designed by Advantech Experts

System design should always start from the customer's perspective. To build up a system that precisely matches a customer's application, Advantech professional engineering team as 4-step system service provider always puts the customer first, from system working environment, to ergonomics, to maintenance. The professional engineering team with rich experience from over 100 successful cases make Advantech the dream system builder for your business.

In addition to the R&D design teams, Advantech also includes various experts handling certification, power design, and manufacturing process. These experienced experts play an active role from the very beginning at the design stages; they make sure your own system would be delivered on time.

### ■ Electric Engineer
Electron Engineers are responsible for circuitry design, power consumption confirmation and electric signal evaluation.

### Mechanical Engineer
Advantech Mechanical engineers possess broad knowledge and experience in years, and are familiar with all kinds of materials used in computer chassis.

### System Engineer
Collaborating with professionals from different fields, the system engineers provide the best integration solution to meet the customers' needs.

### Thermal Engineer
Relying on their practical design experience and industry-leading thermal simulation techniques, we optimize acoustic volume with balanced thermal control.

### Quality Engineer
Quality engineers are in charge of each delivered system's function and reliability.

### Safety Engineer
Advantech safety engineers aim at acquiring certifications of every system we made to meet global/local standard.

## Right System, Right time

Advantech DTOS plays the role as system service provider and offers right system at right time to benefit your business grow in the market. What makes Advantech DTOS a decent service provider is we quickly confirm specifications and timely feedback. We offer fast sample delivery once the system is completely validated and certified. The rapid product time-to-market service service is guaranteed and we are thrilled to announce that more than 100 successful stories have been created in industries of medical, retail, automation, transportation, telecommunication, security& video surveillance and others by Advantech DTOS and our partners.
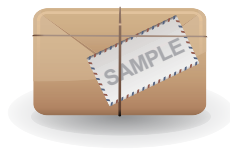
- Quickly confirm specifications and timely feedback
- Fast sample delivery
- Complete consideration and verification
- Rapid product time-to-market
- More than 100 successful stories

# Regional Service & Customization Centers

**China**
Kunshan
86-512-5777-5666

**Taiwan**
Taipei
886-2-2792-7818

**Netherlands**
Eindhoven
31-40-267-7000

**Poland**
Warsaw
48-22-33-23-740 / 741

**USA**
Milpitas, CA
1-408-519-3898

## Worldwide Offices

### Greater China

| | |
|---|---|
| *China* | 800-810-0345 |
| Beijing | 86-10-6298-4346 |
| Shanghai | 86-21-3632-1616 |
| Shenzhen | 86-755-8212-4222 |
| Chengdu | 86-28-8545-0198 |
| Hong Kong | 852-2720-5118 |
| | |
| *Taiwan* | 0800-777-111 |
| Rueiguang | 886-2-2792-7818 |
| Yang Guang | 886-2-2792-7818 |
| Xindian | 886-2-2218-4567 |
| Taichung | 886-4-2378-6250 |
| Kaohsiung | 886-7-229-3600 |

### Asia Pacific

| | |
|---|---|
| *Japan* | 0800-500-1055 |
| Tokyo | 81-3-6802-1021 |
| Osaka | 81-6-6267-1887 |
| | |
| *Korea* | 080-363-9494 |
| Seoul | 82-2-3663-9494 |
| | |
| *Singapore* | |
| Singapore | 65-6442-1000 |
| | |
| *Malaysia* | 1800-88-1809 |
| Kuala Lumpur | 60-3-7724-3555 |
| Penang | 60-4-397-3788 |
| | 60-4-397-4188 |
| | |
| *Indonesia* | 62-31-8720-000 |
| Bandung | 62-22-8524-1175 |
| | |
| *Thailand* | |
| Bangkok | 66-2-248-3140 |
| | |
| *India* | 1800-425-5070 |
| Bangalore | 91-80-2337-4567 |
| | |
| *Australia* | 1300-308-531 |
| Melbourne | 61-3-9797-0100 |
| Sydney | 61-2-9476-9300 |

### Europe

| | |
|---|---|
| **Europe** | 00800-2426-8080 |
| | |
| **Germany** | |
| Münich | 49-89-12599-0 |
| Hilden | 49-2103-97-885-0 |
| | |
| **France** | |
| Paris | 33-1-4119-4666 |
| | |
| **Italy** | |
| Milano | 39-02-9544-961 |
| | |
| **Benelux & Nordics** | |
| Breda | 31-76-5233-100 |
| Roosendaal | 31-165-550-505 |
| | |
| **UK** | |
| Reading | 44-0118-929-4540 |
| | |
| **Poland** | |
| Warsaw | 48-22-33-23-740/741 |
| | |
| **Russia** | 8-800-555-01-50 |
| Moscow | 7-495-232-1692 |

### Americas

| | |
|---|---|
| **North America** | 1-800-866-6008 |
| | 1-888-576-9668 |
| Cincinnati | 1-513-742-8895 |
| Milpitas | 1-408-519-3898 |
| Irvine | 1-949-420-2500 |
| | |
| **South America** | |
| Mexico | 52-55-6275-2777 |
| | |
| **Brazil** | 0800-770-5355 |
| São Paulo | 55-11-5592-5355 |

# ADVANTECH

*Enabling an Intelligent Planet*

## www.advantech.com

More Information

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