# *All-in-One Access Control Terminal*

## ACT-08A

### *8.4" SVGA Intelligent Access Control Terminal*

The advanced, easy-to-use ACT-08A fanless touch-screen panel PC all-in-one control terminal reads both MIFARE and EM tags and transponders. The fanless ACT-08A panel PC are built on low-power, low-heat x86 Intel® 910GMLE or VIA CX700M chipsets. The x86 ACT-08A panel PC are more flexible than the traditional RISC-based control terminals. The x86 architecture enables system developers to integrate sophisticated time attendance, access control and/or prepaid card software on the ACT-08A for implementation in the following areas:

● Door Access
● Time Attendance
● Cashless payment for vehicle, ticket, membership club, photocopying, dining, laundry…etc.
● Parking  Access control
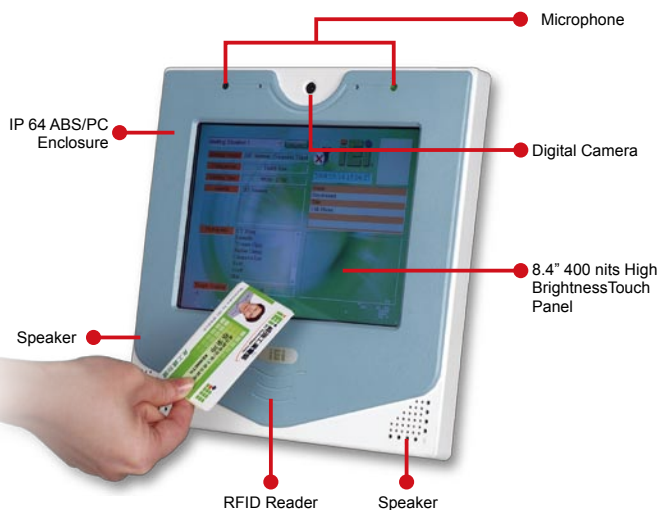
## ◉ All-in-One Ready to Run

The x86 ACT-08A all-in-one panel PC with Windows CE and Windows XPE operating systems is easily integrated with data intensive applications including voice recognition, face recognition etc. The ACT-08A with an 8.4" touch panel is a complete turnkey solution that comes with an RFID reader digital camera, microphone, two speakers, built-in Wi-Fi and Bluetooth module.
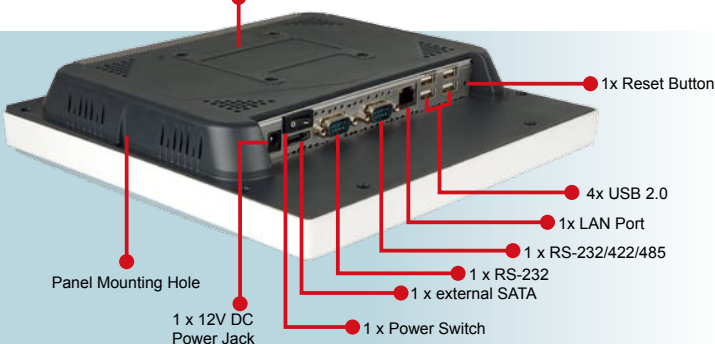
## ◉ Fanless

The fanless ACT-08A systems have less downtime and extended operational lives as they are not susceptible to overheating problems caused by fan failures.

## ◉ Rugged Design

The rugged ACT-08A systems combine IP 64 compliant front panels with anti-shock and anti-vibration shields to ensure the system is secured against vandalism and  protected against extreme environmental conditions.
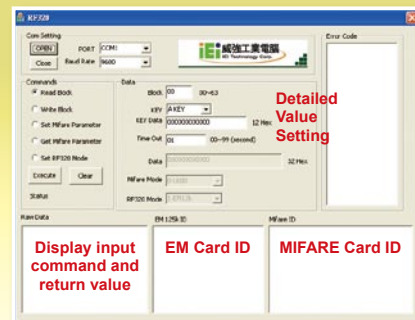
## ◉ Features

● **8.4" TFT-LCD with Resistive Touch Screen**
8.4" SVGA (800x 600) 400 nits  high brightness LCD monitor with robust 4-wire resistive touch screen emables the most convenient access and control

● **Fanless 1.0 GHz Intel® Celeron® M  processor with 512 KB L2 cache or 1.0 GHz ULV VIA Eden processor**

● **Integrated RFID Reader in front of the Panel**
For MIFARE 13.56 MHz or EM  125 KHz RFID tag

● **300K pixel Camera up to VGA resolution (640 x 480)**

● **Built-in microphone**

● **Wireless Connection 802.11 b/g wireless LAN Module (internal PCIe mini card interface)**

● **One CF Type II Slot**

● **Bluetooth Connectivity**

● **Mounting Panel, Wall, Stand and Arm mounting Compliance (VESA  75 mm x 75 mm)**

Microphone

IP 64 ABS/PC Enclosure

Digital Camera

8.4" 400 nits High BrightnessTouch Panel

Speaker

RFID Reader       Speaker

VESA 75 Compliance

1x Reset Button

4x USB 2.0

1x LAN Port

1 x RS-232/422/485

1 x RS-232

1 x external SATA

Panel Mounting Hole

1 x 12V DC Power Jack

1 x Power Switch

## Programmable RFID Support

IEI provides specific RFID software utility configuration instructions including how to:

● Read from the MIFARE card
● Write to the MIFARE card
● Set MIFARE card reader parameters
● Read MIFARE card reader parameters
● Set card reader type detection

**Detailed Value Setting**

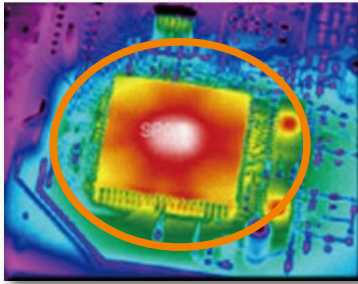| Display input command and return value | EM Card ID | MIFARE Card ID |
|---|---|---|

# Complete Solutions for You

## A. ACT-08A-9103

► **8.4" SVGA High Performance Access Control Terminal**

**Embedded High Computing Performance**

The slim Intel® 910GMLE powered ACT-08A-9103 is a high-performance, low-power information access control terminal. The ACT-08A-9103 is ideal for processing-intensive applications that require superior computing performance.

With low power consumption benefit, BGA type enhances thermal performance and system stabilities significantly.

| Processor | Intel® Celeron® M 1.0 GHz/ 512k Cache |
|---|---|
| Chipset | Intel® 910GMLE |
| Memory | one 200-pin 2GB (maximum) DDR2 SO-DIMM |

## B. ACT-08A-CX2

► **8.4" SVGA Multimedia Enjoyment Access Control Terminal**

**Flawless digital media playback with ultra-low CPU-utilization**

A VIA CX700M chipset is embedded in the ACT-08A-CX2. The VIA UniChrome™ Pro II graphic core in the VIA CX700M supports popular digital video and audio formats.

The graphic core employs a multi-faceted approach to displaying multimedia content, implementing a number of advanced tools at every stage of video processing. These include integrated MPEG-2, MPEG-4, and WMV9 decoding, for flawless digital video playback with ultra-low CPU-utilization.

**Without Hardware Decoder**
● Lagged image with Higher CPU usage

**With Hardware Decoder**
● Good image quality with Lower CPU usage

| Processor | VIA Eden 1 GHz ULV |
|---|---|
| Chipset | VIA CX700M |
| Memory | one 200-pin 1GB (maximum) DDR2 SO-DIMM |

# Expand the Opportunities with RFID

The latest RFID identification reader enables the ACT-08A to be integrated into applications with sophisticated automated identification requirements.

## ◉ Diagram of ACT-08A with RFID

The RFID chip communicates with the reader through RFID induction technology . These tags require close proximity to an antenna to complete a transaction. They are often used when transactions must be processed quickly or hands-free.

**ACT-08A RFID Reader**

**Transponder (RF tag)**

**Compatible with EM and MIFARE!**

RFID tags come in a wide variety of shapes and sizes: Plastic/paper Card, Key Fobs, ABS/PVC Tag, clear tag..etc, assist to expand more applications.

Built-in RFID Module

The RFID tag reader is fully protected in a very low-profile enclosure in the front of the ACT-08A to identify objects using radio-frequency communication techniques and easily for sensor the common smart cards: MIFARE/EM card.

### RFID Card Categories

| | MIFARE Card | EM Card |
|---|---|---|
| **Effective Sensing Distance** | 5cm (max) | 10cm (max) |
| **Frequency Band** | 13.56 MHz | 125 KHz |
| **Applications** | MIFARE Card with 1.0 kByte of memory ideal for more secure applications such as parking, vending and employer cards or as a stored value card. | Ideal for storage id information etc. Student identification, electronic passport, vending, parking and tolls are common applications for contact-less cards. |

## ◉ Advantages
● **Non-contact**
● **Non-line-of-sight nature of the technology**

## ◉ RFID systems are distinguished by frequency ranges

| RFID Category | Frequency band | Benefits | Drawbacks |
|---|---|---|---|
| LF | < 135 MHz | Works well around water and metal | ● Short read range<br>● Slower read rate |
| HF | 13.56 MHz | Low cost | Higher read rate than LF |
| UHF | 860 MHz to 930 MHz | EPC standard built around this frequency | Does not work with items of high water or metal content |

*\* Operating range depends on reader power and operating environment*

# Multi-Device Application Possibilities

## ►Identification

The ACT-08A integrates the RFID reader in the front panel making the ACT-08A ideal for digital identification applications.

◉ **Library RFID Management System**   ◉ **Membership Management**   ◉ **School Student Attendance Monitoring**

## ►Commercial Transaction

The ACT-08A all-in-one access control terminal is easily integrated into automated payment systems integrated at self-service gas stations, in vending machines or at cashier terminals in stores. The ACT-08A also facilitates pre-paying household utilities, paying parking meters etc.

◉ **Digital signage and payment system**   ◉ **Transportation Payment System**   ◉ **Vending Machine**

# Parking Lot Entrance Control

## ►RFID Automated Parking Control System

The RFID controller unit enables the ACT-08A to be implemented in automatic toll collection systems to ensure parking fees are paid. The ACT-08A can be used to access and control a database and monitor the toll collection transaction history.
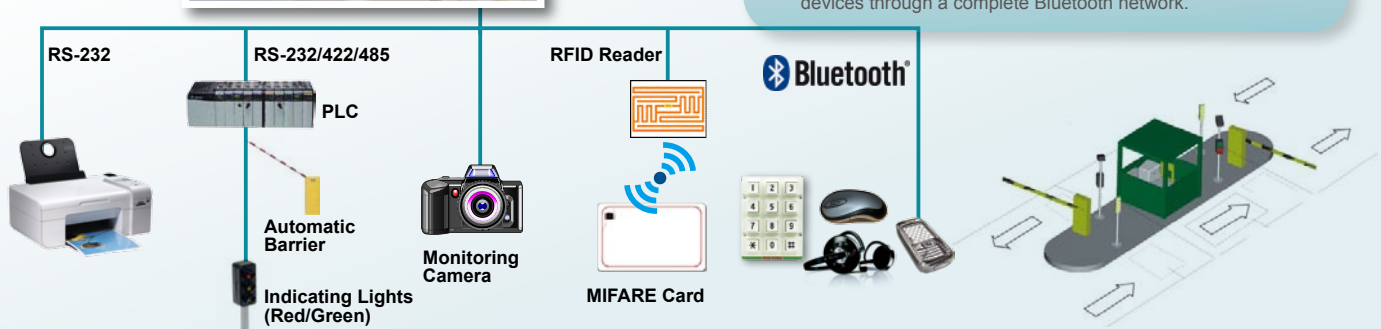
◉ **We Offer**

● **Serial port for Data Transmission**
We provide Two independent RS-232 and RS-233/422/485 serial ports for connecting data acquisition equipment and many other serial devices ACT-08A.

|  | RS-232 | RS-422 | RS-485 |
|---|---|---|---|
| **Mode of Operation** | Single ended | Differential | Differential |
| **Maximum Cable** | 50 Feet | 4000 Feet | 4000 Feet |
| **Maximum Data Rate** | 20 kb/s | 10 Mb/s-100 Kb/s | 10 Mb/s-100 Kb/s |

● **Bluetooth Wireless Connectivity**
Bluetooth module integrated into the ACT-08A all-in-one panel access control terminal transmits information between peripheral devices through a complete Bluetooth network.

RS-232

RS-232/422/485

RFID Reader

**Bluetooth**

**PLC**

**Automatic Barrier**

**Monitoring Camera**

**Indicating Lights (Red/Green)**

**MIFARE Card**

# Access Control Door System

The two-in-one EM/MIFARE compliant RFID reader installed in the ACT-08A x86 based panel PC supports sophisticated security applications. Advanced third-party voice and face recognition software can be integrated with the embedded camera and microphone to enable the development of complete security systems to protect restricted environments in banks, government buildings and other sensitive areas.

300K pixel Camera up to VGA resolution (640 x 480)

Digital Microphone

**Bluetooth®**

5cm ≈10 cm(max)   MIFARE/EM Card

Speakers

● **Face Recognition**
The digital camera captures the image of a person's face and compares facial contours and other facial features with those stored in a database in a few seconds.

● **Voice Recognition**
The microphone captures the voice of a person and compares the signature frequencies with those stored in a database.

● **High quality hands-free speakerphone**
Talk with visitors while they wait outside.

Welcome to join the meeting

### ◉ We Offer
● **x86 architecture that is easy for system integrator application development**

● **Bluetooth Connectivity**
Bluetooth infrastructure eliminates the use of wires or line-of sight.

# Healthcare Solutions

The ACT-08A with Radio Frequency Identification (RFID) technology applied in patient care in hospitals and healthcare facilities can identify and track patients, objects, and assets, and speeds up or eliminates many manual operations in checking and processing patients.

● **Medication Tracking System**
Monitoring the entire flow of medication use, from shipment to administration helps prevent medical mistakes.

● **Asset Tracking**
Attaching an RFID tag to each piece of equipment and strategically locating ACT-08A readers throughout the area of operations where the hardware is used.

Mobile POI

**WiFi CERTIFIED**

**Patient Tracking**

Wireless Access Point

● **AUPS-A10/A20**
*Optional Uninterruptible Power Systems*

● **Family Access Control to Babies in Neonatal Care**
After authorization, families have the ability to view details about their babies on the ACT-08A outside the baby care room.

### ◉ We Offer
● **Compact Fanless System**

● **Optional Uninterruptible Power System**
Protecting your ACT-08A from damage in medical environments is critically important. Uninterruptible power supplies reduces the risk of losing valuable data when power failures occur.

Wristband (with space to insert small paper card tag)

# Specifications

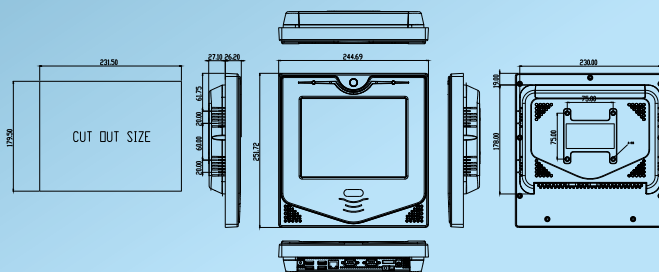| Model | ACT-08A-9103 | ACT-08A-CX2 |
|---|---|---|
| LCD Size | 8.4" | |
| Max Resolution | 800 x 600 | |
| Brightness (cd/m²) | 400 | |
| Contrast Ratio | 500:1 | |
| LCD Color | 262 K | |
| Pixel Pitch (mm) | 0.213 (H) x 0.213 (V) | |
| Viewing Angle (H-V) | 120º / 100º | |
| Backlight MTBF | 50000 hrs | |
| SBC Model | AFLMB-9103-R10 | AFLMB-CX2-R10 |
| CPU | Intel® Celeron® M processor (1.0GHz) with 512 KB L2 Cache | VIA EDEN 1GHz ULV |
| Chipset | Intel® 910GMLE | CX700M |
| RAM | One DDRII SO-DIMM Up to 2GB | One DDR II SO-DIMM up to 1GB |
| I/O Ports | 1 x RS232 COM Port<br>1 x RS232 or 422/485 COM Port<br>1 x Giga LAN<br>4 x USB 2.0 | 1 x external SATA<br>1 x Power Switch<br>1 x Reset Button<br>1 x Power Jack |
| Construction Front Panel | ABS + PC Plastic front frame | |
| Construction Chassis | Aluminum Chassis | |
| Power Adapter | 60 W Power Adapter | 48 W Power Adapter |
| LED Function | 1 x LED on Front Panel for Power ON/OFF | |
| Mounting | Panel, Wall, Stand and Arm mounting, VESA 75 x 75mm | |
| Color | Blue and White | |
| Dimension (WxHxD) (mm) | 251.72 mm x 244.69 mm x 53.3 mm | |
| Operation Temperature (ºC) | 0ºC ~ 45ºC | 0ºC ~ 45ºC |
| N/G Weight | 1.1 kg | 1.1 kg |
| IP Level | IP64 | |
| Safety & EMI | CE / EMC / FCC / CB / CCC | |
| Power Consumption | 48W | 38W |

# Ordering Information

| Part No. | Description |
|---|---|
| ACT-08A-CX2-E10G/WT-R/512MB | 8.4" 400cd/m² SVGA fanless panel PC with VIA Eden 1GHz ULV CPU, 512MB DDR2 RAM, 802.11 b/g wireless module, MIFARE & EM RFID module, touch screen, bluetooth, RoHS |
| ACT-08A-9103-10G/WT-R/1GB | 8.4" 400cd/m² SVGA fanless panel PC with Celeron® M 1GHz 512KB cache CPU, 1GB DDR2 RAM, 802.11 b/g wireless module, MIFARE & EM RFID module, touch screen, bluetooth, RoHS |

# Options

| | | ACT-08A-CX2 | ACT-08A-9103 |
|---|---|---|---|
| Panel Mounting Kit | | AFLPK-08 | |
| Wall Mounting Kit | | AFLWK-12 | |
| ARM | | ARM-11-RS / ARM-31-RS | |
| STAND | | STAND-B08/STAND-100-RS / STAND-150-RS | |
| OS | Win CE 5.0 | ACTCF-08-CX2-CE | ACTCF-08-9103-CE |
| | Win CE 6.0 | ACTCF-08-CX2-CE060 | ACTCF-08-9103-CE060 |
| | Win XPE | ACTCF-08-CX2-XPE | ACTCF-08-9103-XPE |

# Dimensions