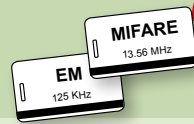# ACT-457A

5.7" RISC-based RFID Panel PC

PoE
IEEE802.3at

CMOS Digital Camera with Microphone

Features

- 5.7" TFT touch color screen, full interface display, all operations can be done directly on the touch screen

- Integrated with RMI Alchemy™ AU1250 500MHz media processor provides hardware decoding for MPE1/2/4, DivX and WMV9

- Dual 125KHz-EM/13.56MHz-Mifare RFID reading capacity

- Built-in open door relay, alarm relay and exit button input.

- Windows® CE5.0 operating system support

- IP64 Front panel watertight and dustproof is the perfect solution for harsh environments

- Optional IEEE802.3at Power Over Ethernet (PoE) compliant

MIFARE 13.56 MHz
EM 125 KHz

F3 One Key Recovery
iEi symantec.

MPEG1 MPEG2
MPEG4 WMV9
DivX MPEG-4
MIPS TECHNOLOGIES

■ Low Power, High Multimedia Performance

Integrated with RMI Alchemy™ technology to enable users to play DVD quality video efficiently at full-frame rates with low power consumption. The integrated MAE (Media Acceleration Engine) supports common digital video formats including MPEG1, 2, 4, DivX, and WMV9, and delivers full D1 resolution without the need for a DSP or specialized coding.

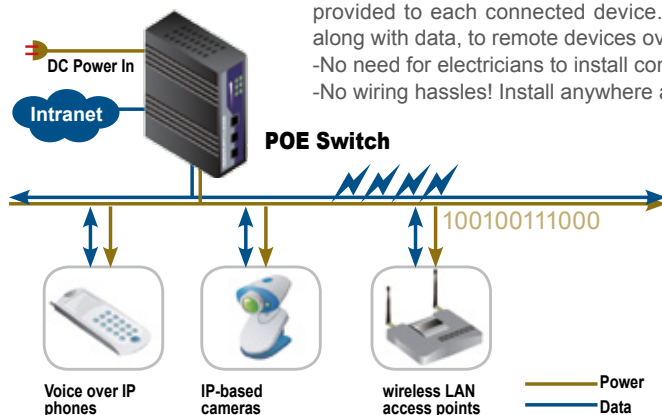| Multi Video/Audio Format Support Table			
Format	**Stream Type**	**Audio Format**	**Supported Bit Rates**
MPEG-1	System	MPEG	8 Mbps
MPEG-2	Program	MPEG	10 Mbps
	Transport	MPEG	8 Mbps
WMV9	Unencrypted only	WMA	2.5 Mbps
	CBR w/o filters, 720x480	WMA	2.5 Mbps
	VBR w/o filters, 720x480	WMA	2.5 Mbps
DivX	Unencrypted only/ no subtitles - V3.11	MP3/AAC/MPEG	4 Mbps
	V4	MP3/AAC/MPEG	4 Mbps
	V5	MP3/AAC/MPEG	4 Mbps
MPEG-4 MP4 ISO/EIC 14496-2.	Advanced Simple Profile – level 5	AAC	3 Mbps
MPEG-4 AVI	Advanced Simple Profile – level 5	MP3, AC-3	4 Mbps

RMI Raza Microelectronics, Inc.
RMI Alchemy Au1250 Processor

6.2W Only

■ PoE Power Reduces Cost of System Installation

The ACT-457A is IEEE 802.3at compliant. The IEEE 802.3at PoE standard ensures that 25W of DC power is provided to each connected device. PoE Technology describes a system to safely transfer electrical power, along with data, to remote devices over standard category 5e cable in an Ethernet network.
-No need for electricians to install conduit, electrical wiring, and outlets throughout the enterprise.
-No wiring hassles! Install anywhere a RJ-45 jack is present.

DC Power In
Intranet
POE Switch
100100111000

Voice over IP phones
IP-based cameras
wireless LAN access points
— Power
— Data

PoE
IEEE802.3at

■ How Does the Relay Switch Work in the ACT-457A?

ACT-457A has two built-in output controls. Electricity flows through one circuit while the other circuit controls the flow of electricity. When the electromagnet is energized, it exerts a force on the armature that overcomes the pull of the spring and moves the contact. The contact is then complete or the circuit is broken. When the electromagnet is de-energized, the contact returns to its original position.
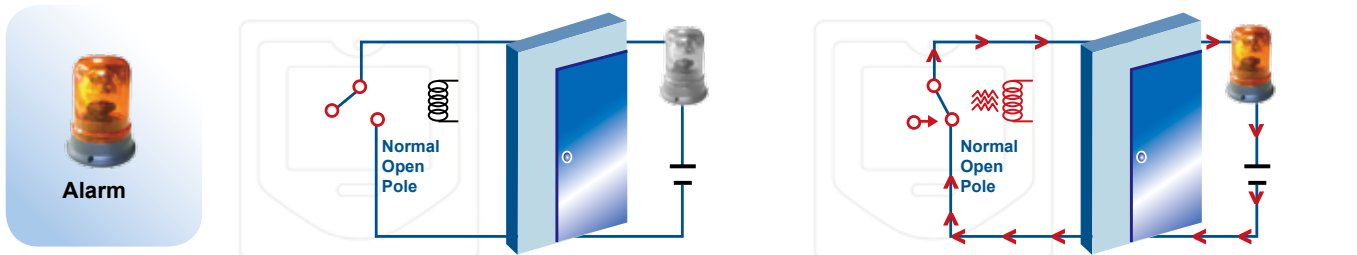
● Normal Close Example:

In its normal state, the relay is typically closed. When the electromagnet is energized it will open and break the circuit.

Magnetic Door Lock

Normal Close Pole

Max
120VAC 12A
240VAC 10A
28VDC 10A

Magnet

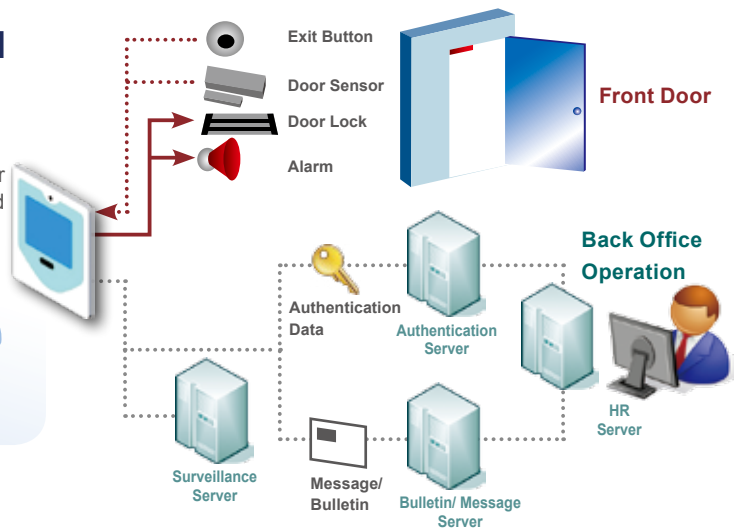Normal Close Pole

Magnet

● Normal Open Example:

When the relay is open, there is no connection between the two wires until the relay receives a signal (outside source energizes the relay) to close. Simply put, an open relay is the same as a light switch that is turned off, and will always be off until turn on.

Alarm

Normal Open Pole

Normal Open Pole

EM Application   Access Control

user is identified by RFID sensor, their personal access information will be automatically stored and backed up on the surveillance server. At the same time, Identification data will be sent to the back-end system for processing. Authentication server will confirm with a valid list and feedback the result via Ethernet.

- - - → Digital Input
——→ Relay Output
········· Ethernet/VPN

MIFARE
13.56 MHz

Exit Button

Door Sensor

Door Lock

Alarm

Front Door

Back Office Operation

Authentication Data

Authentication Server

HR Server

Surveillance Server
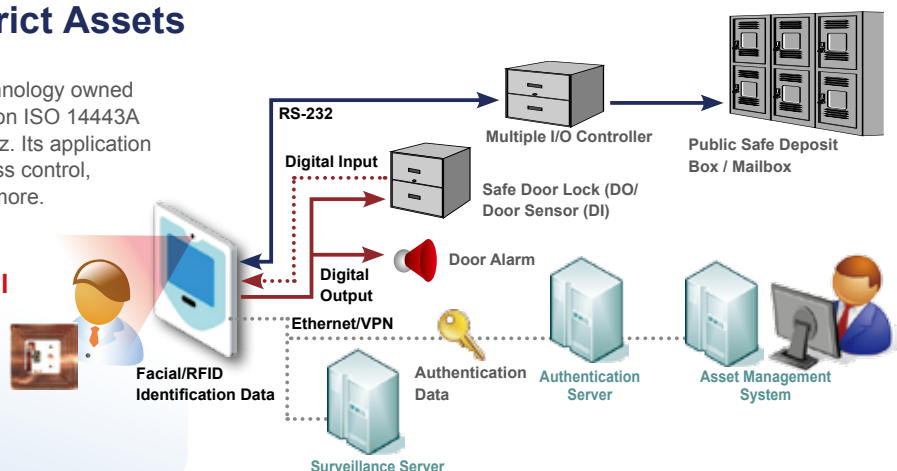
Message/ Bulletin

Bulletin/ Message Server

Mifare Application   Restrict Assets

What is MIFARE®?
MIFARE is a contact-less smart card technology owned by Philips. MIFARE technology is based on ISO 14443A and operates at a frequency of 13.56 MHz. Its application segments range from identification, access control, payment and billing systems, and many more.
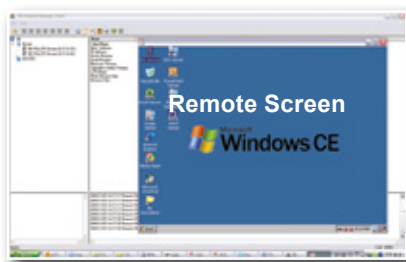
One Pass for All Situations!

- - - → Digital Input
——→ Relay Output
········· Ethernet/VPN
——→ RS-232

RS-232

Digital Input

Digital Output

Ethernet/VPN

Facial/RFID Identification Data

Multiple I/O Controller

Public Safe Deposit Box / Mailbox

Safe Door Lock (DO/ Door Sensor (DI)

Door Alarm

Authentication Data

Authentication Server

Asset Management System

Surveillance Server

Remote Management Tool

IEI RMT allows remote management of several ACT terminals at the same time via a network. You can quickly access distributed ACT terminals from anywhere in the world and control/resolve issues remotely!

Remote Screen

Windows CE

Network

Remote Office

Site 1

Site 2

Site n

IEI RMT Tool

Input the IP address range on the Internet, the management system will automatically scan the distributed ACT terminals in the desired range.
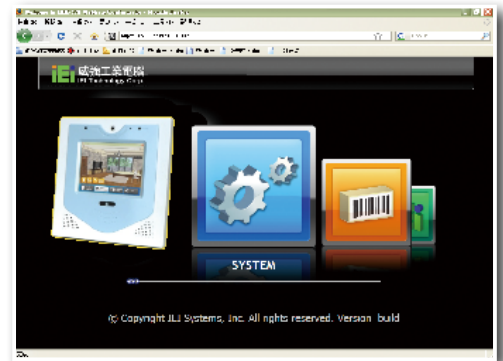
Web-based Configurator

Allows users to access ACT-457A and modify the settings on a web browser interface anytime, anywhere without installing any applications. It makes management of ACT-457A easy and convenient for IT administrators and reduces your system maintenance costs.

System Setting

User can recall system information and set up Ethernet and Wireless parameters using the system setting menu. The remote restart option allows users to restart the system when any abnormal circumstance occurs and a restart procedure is needed.
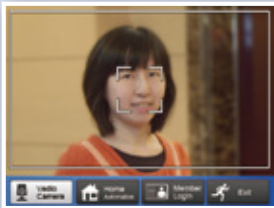
SYSTEM

(c) Copyright ILi Systems, Inc. All rights reserved. Version build

Runtime DEMO

ACT Runtime Demo is a pre-installed application which introduces the functions of the ACT-457A to new users

300K Pixel CMOS Camera
In the video camera window, user can preview video output. The capture and Open function enable user to capture preview image, save as bitmap file and open.

Access Control by Smart Card or Exit Button
On the home automation page, user can open the magnetic door by pressing the exit button or read a sample RFID card.

Member Login
User can test the RFID reading function on the member login page. When a sample card is read, the application will identify and display personnel information on the screen. User can edit the valid XML member list file with PC based utility included on the ACT-457A
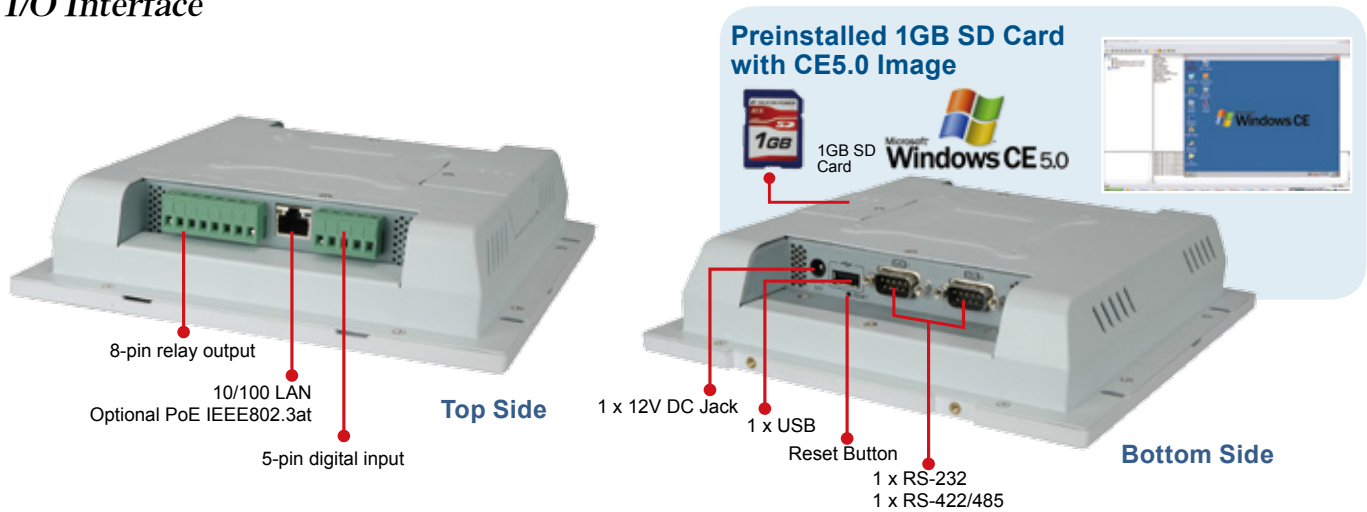
Kevin HU
ICP Electronics, Inc.
Business Development Dept.
Senior Officer
kevinhu@iepems.com
0938125484

NO. AA 456748579

Alarm
Pressing the light button enables the on-screen lights. (Shown: the access door alarm is activated)

I/O Interface

Preinstalled 1GB SD Card with CE5.0 Image
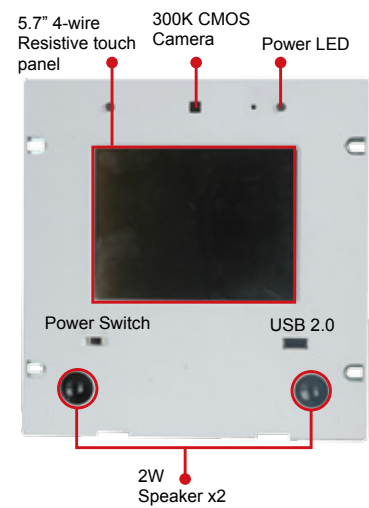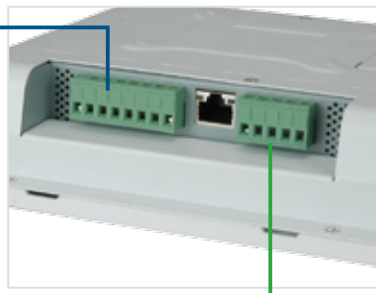
1GB SD Card

Windows CE 5.0

8-pin relay output

10/100 LAN
Optional PoE IEEE802.3at

Top Side

5-pin digital input

1 x 12V DC Jack

1 x USB

Reset Button

1 x RS-232
1 x RS-422/485

Bottom Side

Digital Input/Relay Output Pin Definition

Relay Output

2 Relay Output

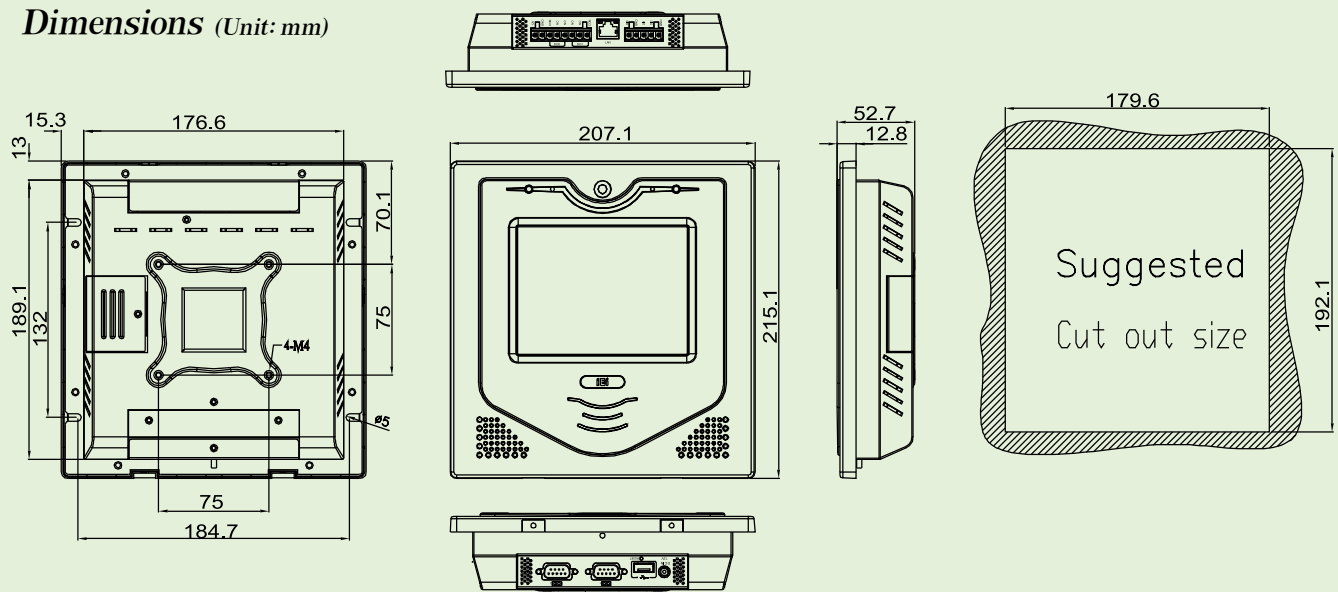| Pin	Assignment
1	+12V
2	Ground
3	Relay Output-1 (For Electronic Lock Common)
4	Relay Output-1 (For Electronic Lock Normal Close)
5	Relay Output-1 (For Electronic Lock Normal Open)
6	Relay Output-2 (For Alarm Normal Open)
7	Relay Output-2 (For Alarm Normal Close)
8	Relay Output-2 (For Alarm Common)

Digital Signal Input

Pin	Assignment
1	Digital Signal Input-1 (For Exit Button)
2	Ground
3	Digital Signal Input-2 (For Door Sensor)
4	Ground
5	Ground

5.7" 4-wire Resistive touch panel

300K CMOS Camera

Power LED

Power Switch

USB 2.0

2W Speaker x2

ACT-457A
Dimensions (Unit: mm)

15.3
176.6
13
70.1
189.1
132
75
4-M4
75
ø5
184.7

207.1
215.1

52.7
12.8

179.6
192.1

Suggested
Cut out size

Specifications

Model		ACT-457A-1250
Display	LCD Size	5.7"
	Max Resolution	640 x 480
	Brightness (cd/m²)	400
	Contrast Ratio	300 : 1
	LCD Color	262K
	Pixel Pitch (mm)	0.06(H) x 0.18(V)
	Viewing Angle (H-V)	140°/100°
	Backlight MTBF (hrs)	50000 (LED Backlight)
Motherboard	CPU	Alchemy AU1250 500MHz
	Bootloader Storage	2MB
	RAM	256MB DDR2 SDRAM
	OS/Program Storage	1GB SD Card for WIN CE 5.0 OS and User Program
I/O Ports		1 x RS-232 COM Port
		1 x RS-422/485 COM Port
		1 x RJ-45 for 10/100Mbps Ethernet with PoE
		2 x USB 2.0
		1 x Power Jack
		1 x Reset Button
		1 x 5 Pin Terminal Block for Signal Input
		2 x Digital Input *
		3 x GND
		1 x 8 Pin Terminal Block for Relay Output
		2 Relay (One NC and one NO contacts for Alarm, One NC and one NO contacts for Lock)
		1 x 12V 1A max. output (for Door control)
		1 x GND

RFID Module	Working Frequency	EM 125KHz and MIFARE 13.56MHz
	Reading Range	1~3 cm (Under 13.56MHz)/ 5 cm (Under 125KHz)
Drive Bay	SSD	SD Card
Other Features	Watchdog Timer	Software programmable supports 1~255 sec. System reset
	Audio	AMP 2W + 2W
	Extension	Webcam & Mic Function
	LED Function	1 x Power ON/OFF LED on Front Panel
Physical	Construction Material	ABS + PC Plastic front frame
	Mounting	Panel, Wall, VESA 75mm x 75mm
	Front Panel Color	Blue & White
	Net Weight	0.7Kg
	Dimensions (WxHxD) (mm)	215 x 207 x 52.7
Environment	Operation Temperature (°C)	-10°C ~60°C
	Storage Temperature (°C)	-20°C ~70°C
	IP Level	IP64
	EMC	CE, FCC, CCC
	Safety	CB
Power over Ethernet		Optional IEEE 802.3at (via RJ45 10/100Mbps LAN)
Touch Screen		Resistive Type 4-Wire
Power Adapter		63000-FSP040DGAA1106-RS Power: 40W Input: 90VAC~264VAC, 50/60Hz Output: 12VDC
Power Requirement		12V DC-IN
Power Consumption		9W , Maximum 21W (include Max 12V@1A internal Power output)

*Low level(0): 2V MAX., High level (1): +4~+50V

Relay Specifications

Contact rating	12A 120VAC, 10A 240VAC, 10A 28VDC
Max. switching voltage	240VAC, 60VDC
Max. switching current	12A
Min. switching load	10mmA 5VDC

Ordering Information

Model	Description
ACT-457A-AU1250/T-R/256MB-R10	5.7" 400cd/m² VGA fanless panel PC with Alchemy AU1250 500Mhz, touch screen, 0.3M camera, MIFARE & EM RFID module, door control, 256MB DDR2, RoHS
ACT-457A-1250/T-R/POE/-R10 POE Power	5.7" 400cd/m² VGA fanless panel PC with Alchemy AU1250 500Mhz, touch screen, 0.3M camera, MIFARE & EM RFID module, door control, IEEE802.3at PoE, 256MB DDR2, RoHS

Packing List

Item	P/N	Q'ty	Specifications
SELF DRILL OVAL HEAD SCREW	44233-030081-RS	4	M3*8;T24
Power Cord	32000-000002-RS	1	1830MM; European Power Cord
Power Adapter	63000-FSP040DGAA1106-RS (40W Power Adapter)	1	VAC: 90V~264V; 40W; 1500MM
Touch Pen	43125-0002C0-00-RS	1	
Utility CD			

*Preinstalled 1 GB SD Crad with CE5.0 image

Utility CD includes:
- **ACT-457A User Manual**
- **ACT-457A DEMO AP (w/ Source code)**
- **ACT-457A SDK**
  - IEI MIPS Windows CE standard SDK
  - Record application development guide
  - Camera application development guide
  - DI/DO application development guide
  - RFID configuration guide
- **IEI Utilities**
  - ACT Remote Management Tool
  - ACT Web-based Configurator