

# ARK-3381

## Seven Serial Ports and 2 Printer Ports, Fanless Embedded Box Computer

NEW



### Features

- Seven serial port interfaces: 5 x RS-232/422/485 and 2 x RS-232
- Dual PCI 1284 Printer Ports
- Dual independent display capability
- Built-in Intel® Ultra Low Voltage Celeron® or Low Voltage Intel Pentium® M processor
- Sealed construction with fanless operation
- Anti-vibration to ensure maximum reliability
- Easy integration, easy maintenance
- Accepts a wide range of DC power sources

### Introduction

The ARK-3381 fanless Embedded Box Computer combines seven serial port interfaces and other industrial features into a rugged, compact metal chassis for intensive communication based applications. The fanless operation provides noise protection for the platform when it is deployed in external environments. The ARK-3381 Embedded Box Computer is perfectly suited for embedded PC applications. All electronics are conveniently protected in a compact sealed housing, ideal for applications in which space and environmental demands are critical.

### Specifications

#### Processor Core Logic System

- **CPU** Intel Ultra low voltage Celeron or Intel Pentium M low voltage processor  
ULV Celeron M 1.0 GHz (ARK-3381-2S0A2E)  
LV Pentium M 1.4 GHz (ARK-3381-2S4A2E)
- **System Chipset** Intel 852GM GMCH or Intel 855GME chipset  
Intel ICH4 chipset, 400 MHz FSB
- **BIOS** 4 Mbit Flash BIOS, supports Plug & Play, APM 1.2
- **System Memory** 1 x 200-pin SO-DIMM socket  
Supports DDR SDRAM up to 1 GB

#### Display

- **Chipset** Integrated graphics built in to Intel 852GM GMCH, or Intel 855GME GMCH, utilizing Intel extreme Graphics 2 technology
- **Display Memory** Dynamic video memory allocation up to 64 MB
- **Display Interface** CRT Interface  
36-bit LVDS interface

#### Ethernet

- **Ethernet Controller** Intel 82551QM 10/100Base-T Ethernet controller

#### Serial

- **Serial Interface** 2 x RS-232 port and 5 x RS-232/422/485 port
- **USB Interface** 1 x USB port, USB 2.0 Compliant

#### Parallel

- **Printer Port** Dual PCI 1284 Printer Ports

#### Other

- **Watchdog Timer** 255-level timer interval, setup by software
- **Keyboard/Mouse** Supports PS/2 mouse and PS/2 keyboard

#### Software Options

- Windows® XP Embedded, Windows 2000/XP

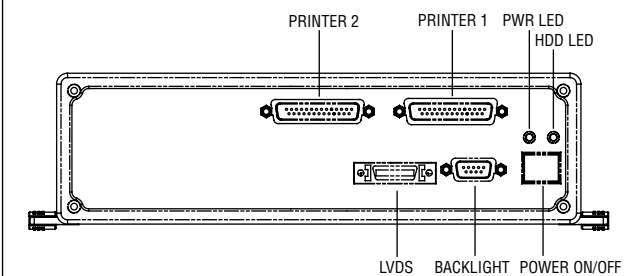
#### Storage

- Supports drive bay space for 2.5" HDD
- Supports CompactFlash socket for type I/II CompactFlash disk

#### Front Panel External I/O

- 1 x LVDS Port by D-Sub Connector

#### Front Panel External I/O Mechanical Layout/Drawing



- 1 x Backlight On/Off Control Connector
- 1 x ATX Power On/Off Button
- 2 x Printer Ports as Printer1 and Printer2

#### Mechanical

- **Construction** Aluminum housing
- **Mounting** Din-Rail mounting  
Desk/wall-mounting
- **Dimensions (W x H x D)** 264.5 x 69.2 x 137.25 mm (10.41" x 2.72" x 5.4")
- **Weight** 2 kg

## Power Supply

- **Output Rating** 46 W
- **Fuse Rating** 7 A @ 125 V
- **Input Voltage** 12 V<sub>DC</sub> ~ 24 V<sub>DC</sub>, Typical 12 V<sub>DC</sub> @ 4.5 A,  
16 V<sub>DC</sub> @ 3.4 A, 19 V<sub>DC</sub> @ 2.9 A, 24 V<sub>DC</sub> @ 2.3 A

## Environment Specifications

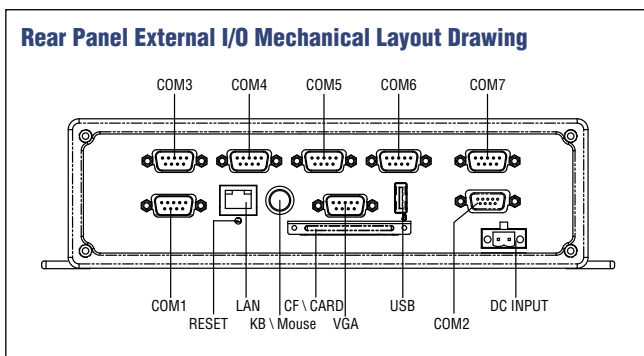
- **Operating Temperature** When system is equipped with Industrial Grade CompactFlash disk only: -20 ~ 60° C  
When system is equipped with 2.5-inch hard disk: 0 ~ 45° C
- **Relative Humidity** 95 % @ 40° C (non-condensing)
- **Vibration During Operation** When system is equipped with CompactFlash disk only: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.  
When system is equipped with 2.5-inch hard disk: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis.
- **Shock During Operation** When system is equipped with CompactFlash disk only: 50 G, IEC 60068-2-27, half sine, 11 ms duration  
When system is equipped with hard disk: 20 G peak acceleration, IEC 60068-2-27, half sine, 11 ms duration
- **EMC Approved** CE, FCC
- **Safety Approved** UL

## Rear Panel External I/O

- 1 x Fully Functional RS-232 Serial Port as COM1
- 1 x RS-232 Serial Port supporting Tx/Rx function only (Without support of handshaking) as COM7
- 5 x RS-232/422/485 Serial Ports as COM2 ~ COM6

Note:

- The default setting of COM2 ~ COM6 is RS-232.
- The RS-422/485 mode of COM2 can be supported by replacing the internal cable and adjusting the jumper inside the system
- The RS-422/485 mode of COM3 ~ COM7 can be supported via a BIOS setting



- 1 x RJ45 Port: 10/100Base-T Ethernet Connection
- 1 x PS/2 Connector
- 1 x Reset Button
- 1 x VGA/CRT Connector
- 1 x USB 2.0 Connector
- 1 x Phoenix Power Input Connector

## Packing List

- 1 x ARK-3381 Unit
- 1 x DIN-Rail Mounting Kit
- 1 x PS2 Keyboard/Mouse Cable (P/N: 1700060202)
- 1 x Utility CD
- 1 x Flat cable for RS-485/422 mode of COM2 (P/N: 1700001967)
- 1 x 2-pin Phoenix to DC-Jack power cable (P/N: 1700001394)

## Ordering Information

- **ARK-3381-2S0A2E** ULV Celeron M 600 MHz Box Computer, with VGA/LVDS, Fast Ethernet, 2 x RS-232, 5 x RS-232/422/485, 2 x Parallel
- **ARK-3381-2S4A2E** LV Pentium M 1.4 GHz, Embedded Box Computer, with VGA/LVDS, Fast Ethernet, 2 x RS-232, 2 x Parallel, 5 x RS-232/422/485

## Optional Items

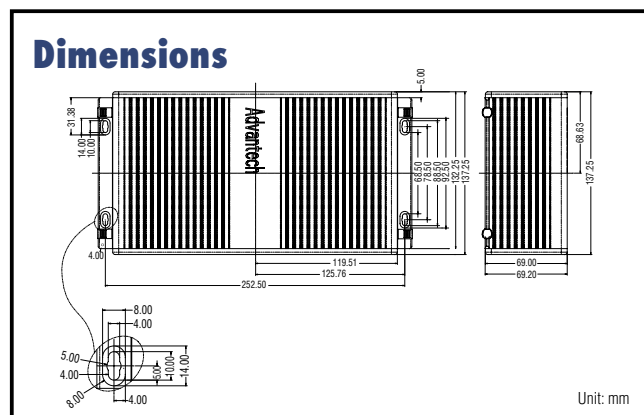
### External AC-to-DC Adapter and Power Cable

- **1757000222** AC-to-DC ADAPTER DC19 V/3.42 A 65 W, with Phoenix Power Plug, 0 ~ 40° C for Home and Office Use
- **1700001947** Power cable 2P 180 cm, USA for ARK-338X
- **1700001948** Power cable 2P 180 cm, Europe for ARK-338X
- **1700001949** Power cable 2P 180 cm, UK for ARK-338X
- **1757000254** AC-to-DC 60W Adapter, DC19 V/3.15 A with Phoenix Power Plug, with PSE Mark for Japanese Market

### Embedded OS (Only available for T-Parts OEM, and CTOS service)

- **2070001124** Windows CE.NET 5.0 Professional Plus OS Image and License for ARK-1380, English Version (36 MB)
- **2070000636** XPE SP2 OS Image and License for ARK-3380/1/2/9, English Version (600 MB)
- **2070001112** XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 English Version (600 MB)
- **2070001113** XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 Traditional Chinese Version (600 MB)
- **2070001114** XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 German Version (600 MB)
- **2070001115** XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 French Version (600 MB)
- **2070001116** XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 Italian Version (600 MB)

## Dimensions



## Benefits

### Serial Port Intensive with Networking Capability

Five RS-232/422/485 serial ports and two RS-232 serial ports enable communication with field level devices for measurement and operator control in diversified automation applications

### Highly Robust Casting Construction

- Fanless operation in sealed aluminum construction
- A special cushioned design that absorbs vibration to ensure maximum reliability under harsh conditions

### Highly Compact Size

With its maximum mounting height of 69 mm, the ARK-3381 can be used under space critical installation conditions

### Optimized Integration

- Few parts, easy integration and easy maintenance guarantee cost-effective investment
- Systems are supplied "Ready-to-Run"
- Long life cycle support for product continuity

### Wide Range of Power Source

The wide input voltage range of 12 ~ 24 V DC offers flexibility in automation environments

### High Computing Performance

Scalable Low Voltage and Ultra Low Voltage Pentium M class processor system with Ethernet networking capability for high computing performance

## Applications

- The ARK-3381 supports applications for environment and facilities monitoring, kiosks, tolling and ticketing, and entrance controls as well as medical devices with multiple device connectivity.
- KIOSK
- Environmental Monitoring System (EMS)
- Facility Management System (FMS)
- Medical Instrument Control

## Application Example

