

# ARK-5280

## Fan-Less Slot Expansion Embedded Box Computer

NEW



### Features

- Extremely compact, sealed construction with fanless operation, supports Intel® Pentium® M and Celeron® M up to 2.0 GHz
- Dual Independent display supported by built-in system digital DVI and analog VGA/CRT interfaces
- 2 PCI slots for PC board expansion
- Rubber anti-vibration card-holder for PC expansion boards
- Anti-Vibration HDD to ensure Maximum Reliability
- ATX, and wide-range of DC Power Input support: DC 9 V ~ 35 V
- Simple, modularized user-friendly design for quick installation, expansion and easy maintenance

### Introduction

ARK-5280 is a powerful, robust and fanless Embedded Box Computer. The high performance ARK-5280 Embedded Box Computer is equipped with socket 478 that supports Intel Celeron-M and Pentium-M processors, which is highly suitable for embedded and industrial PC applications requiring high processor performance within a limited space. Featuring 2 PCI slots for application expansion and system integration, ARK-5280 Embedded Box Computer also carries 2 USB 2.0 and 4 serial port communication I/O interfaces. It can support up to 2GB DDR SDRAM of main memory and has dual independent display support from the built-in CRT/VGA and DVI interfaces that gives ARK-5280 Embedded Box Computer great flexibility within space critical environments. ARK-5280 is ideal for embedded system applications such as machine automation, and industrial plant and cabinet integration.

#### Fanless Power Computing Performance

- Fanless operation in sealed construction utilizing low thermal emission processors
- Supports Socket 478 type Intel Pentium M and Celeron M processors

#### Compact, Extremely Robust Construction

- Robust sealed Aluminum casting construction using a modularized design to offer maximum space efficiency
- Rubber anti-vibration card-holder for PC expansion boards and anti-vibration HDD to ensure maximum reliability

#### Highly Optimized Integration

- Simple and modularized service-friendly design
- Quick installation, easy expansion and maintenance
- Systems are supplied ready to Run
- Access wide-range of DC 9V~35V power input source with ATX support; offers flexibility for various automation environments
- Long life cycle support for product continuity to secure investment

### Specifications

#### Processor System

- **Processor Support** Supports uFCPGA2, 478 pin embedded Intel Pentium M or Celeron M Processors, and supports up to Intel Pentium M processor 755 at 2.0 GHz
- **System Chipset** Intel 855 GME GMCH Graphics Memory Controller Hub (GMCH)  
6300ESB I/O Controller Hub (ICH)  
400MHz FSB
- **BIOS** Award 4 Mbit Flash BIOS
- **Second level cache** Celeron M processor: 512 KB or 1 MB  
Pentium M processor 1 MB or 2 MB
- **DRAM** Dual 200-pin SODIMM sockets,  
Support ECC DDR200/266/333 SDRAM Up to 2 GB
- **Power Management** APM Rev. 1.2, ACPI Supported

#### Display

- **Display Controller** Intel 855 GME integrated graphics utilizing Intel Extreme Graphics 2 technology
- **Display Memory** Optimized Shared Memory Architecture, supports up to 64 MB frame buffer using system memory
- **Display Interface** CRT Interface  
DVI interface, compliant with DVI specification 1.0
- **Resolution** Up to 2048 x 1536 @ 24 bpp (75 Hz)

#### Ethernet

- **Ethernet Interface** Intel 82551ER 10/100Base-Tx Fast Ethernet Controller  
One RJ45 Connector on the front site

#### Audio

- **Audio Interface** Audio controller on the ICH4 chip.  
Realtek ACL202 AC97 Codec  
AC97 3D surround stereo sound, Dual 2.2 W Amplifier  
Supports Line –in, Speak-out, Mic-In connectors on the front site

#### Others

- **Watchdog timer** 255 levels timer interval, setup by software
- **Keyboard/Mouse** One Mini-Din connector support PS/2 Keyboard and PS/2 Mouse
- **Serial Ports** 4 serial ports  
COM1: RS-232/422/485 by a DB9 connector on front site  
COM2-4: 3\*RS-232 by 3 DB9 connectors on front site
- **USB** Built-in 2 USB 2.0 ports  
Optional USB Cable-Bracket to support additional 2 USB 2.0 ports

#### Storage

- **SSD** Supports One Compact Flash Card Type I/II
- **HDD** Supports one drive bay for 2.5-inch HDD

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System On Modules

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Slot CPU Cards

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Industrial Motherboards

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Digital Storage & Display Solutions

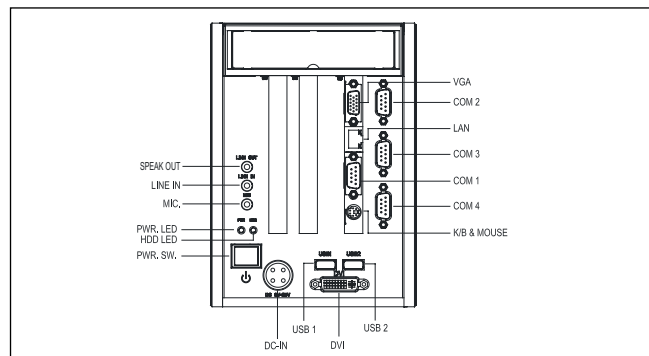
10  
Vehicle Mounted Computing Platforms

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Medical Computing Platforms

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Embedded Software Solutions

## PC Board Expansion

- Expansion Slots** Built-in 2 \* PCI Expansion Slots  
Support Maximum Length of 186mm of PCB Boards Expansion



## System External I/O on chassis

- Front Panel** One Power On/Off Button
- External I/O port** One 4-pole, DC DIN-Jack of Power Input connector  
Dual USB Ports  
One DVI Port  
One DB-15 VGA Port  
One RJ-45 0/100BaseT Fast Ethernet Port  
One DB-9 as COM1 for RS-232/422/485  
Three RS-232 COM Port as COM2 ~ COM4  
One Mini-Din as PS/2 Keyboard  
Line\_In, Speak\_Out and Mic-In connector

## Internal DC-to-DC Power Supply Unit

- Output Rating** DC 120 W
- Input Voltage**  $9 V_{DC} \sim 35 V_{DC}$   
Supports Power Input Reversed protection  
Supports Power Input Surge protection  
Supports Maximum Power Input:  
 $9 V_{DC}/14 A @ 126 W$   
 $12 V_{DC}/10 A @ 120 W$   
 $16 V_{DC}/8 A @ 128 W$   
 $19 V_{DC}/6.5 A @ 124 W$   
 $24 V_{DC}/5 A @ 120 W$   
 $35 V_{DC} @ 3.5 A @ 123 W$
- Fuse Rating** DC 15 A/63 V

## Mechanical

- Construction** Aluminum housing with Pantone Silver Color
- Dimension** 137 mm (W) x 189 mm (H) x 221 mm (D)
- Weight** 5 KG

## Software Compatibility

- Software** OS support: Windows 2000, Windows XP, and Windows XP Embedded

## Environmental Specification

- Operating Temperature** When system is equipped with 2.5-inch HDD without PC Expansion Boards : 0 to 45°C  
When system is equipped with Industrial Grade Compact Flash Disk without PC Expansion Boards: -20~55°C
- Relative humidity** 95% @ 40 °C (non-condensing)
- Vibration Loading** When system is equipped with 2.5-inch HDD:1Grms,

## During Operation

IEC 60068-2-64, random, 5 ~ 500 Hz, 10 ct./min, 1 hr/axis

When system is equipped with Industrial Grade Compact Flash Disk:

5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 10 ct./min, 1 hr/axis

- Shock During Operation** When system is equipped with 2.5-inch HDD: 20G, IEC 60068-2-27, half sine, 11ms duration  
When system is equipped with Industrial Grade Compact Flash Disk: 50G, IEC 60068-2-27, half sine, 11ms duration
- Safety** UL
- EMC** CE/FCC

## Packing List

- 1 x ARK-5280 Unit
- 1 x PS2 Keyboard/Mouse Cable (P/N: 1700060202)
- 1 x Utility CD
- 1 x Rear Mounting Bracket (P/N: 1960004453)
- 2 x Bottom Mounting Brackets (P/N: 1960004453)  
Note: 1 of 2 Bottom mounting Brackets is made for common usage of both Table-mount and Wall mount
- 1 x Power Cable, DIN-Jack to DC-Plug (P/N: 1700001861)

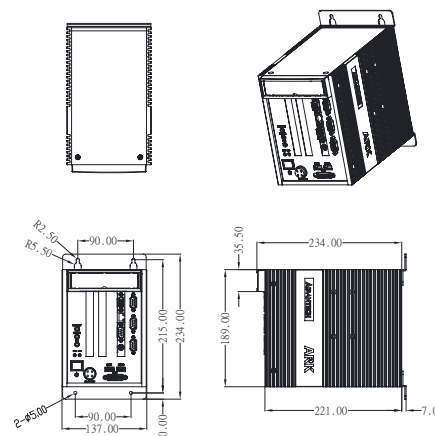
## Ordering Information

- ARK-5280-1S3A1** Celeron M 1.3GHz Embedded Box Computer, with VGA/DVI, Fast Ethernet, 2xUSB, 4xCOM, AC97 Audio, 512MB DDR SDRAM, 40GB HDD
- ARK-5280-1S6A1** Pentium M 1.6GHz Embedded Box Computer, with VGA/DVI, Fast Ethernet, 2xUSB, 4xCOM, AC97 Audio, 512MB DDR SDRAM, 40GB HDD

## Optional Items

- 2070000606** XPE SP2 OS Image and License for ARK-5280, English Version (440MB)
- 1750000331** AC-to-DC ADAPTER 4P DC19V/7.89A 150W (ARK-5280)
- 9689071001** Power cord 3P 180cm USA type
- 170203183c** Power CABLE 3P 183cm Europe type
- 1700001934** Dual-USB Cable-Bracket for ARK-5280

## Dimensions



Unit: mm