ARK-3380

Multiple Video Interface, Fanless Embedded Box Computer

Features

- DVI, LVDS, and TV-out display interfaces with dual 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, few parts and wide range of power sources
- Embedded software support

Introduction

The ARK-3380 Fanless Embedded Box Computer combines a rich display interface and other industrial features into a rugged, compact metal chassis for multimedia intensive applications. The fanless operation provides noise protection to the platform when deployed in external environments. The ARK-3380 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-3380-1S0A2E)
LV Pentium M 1.4 GHz (ARK-3380-1S4A2E)
- **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 1GB

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
DVI interface, compliant with DVI specification 1.0

Ethernet

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

Audio

- **Audio Interface**   Audio controller on the ICH4 chip
AC97 3D stereo surround sound, Dual 6 W Amplifier

Serial

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

Other

- **Watchdog Timer**   255-level timer interval, setup by software
- **Keyboard/Mouse**   Supports PS/2 Mouse and PS/2 Keyboard
- **USB**   USB 2.0 compliant

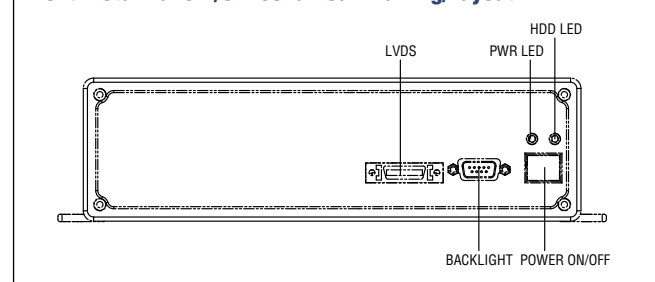### Software Options

- Windows XP Embedded, Windows 2000/XP

Storage

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

Front Panel External I/O

- **1 x LVDS Port by D-Sub Connector**
- **1 x Backlight On/Off Control Connector**
- **1 x Power On/Off Button**

Front Metal Panel I/O Mechanical Drawing/Layout

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_{DC} ~ 24 V_{DC}, Typical 12 V_{DC} @ 4.5 A,
  16 V_{DC} @ 3.4 A, 19 V_{DC} @ 2.9 A, 24 V_{DC} @ 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 equiped with CompactFlash disk only: 5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 Oct./min, 1 hr/axis
  When system is equiped 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, IEC 60068-2-27, half sine, 11 ms duration
- **EMC Approved** — CE, FCC
- **Safety Approved** — UL

Rear Panel External I/O

- **1 x Serial Port: Supports RS-232 Interface as COM1**
- **1 x Serial Port Supports RS-232/422/485 Interface as COM2**
  Note: The default setting of COM2 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.
- **1 x RJ45 Port: Support 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**
- **1 x Speaker-out Port**
- **1 x Mic-in Port**
- **1 x Line-in Port**
- **1 x DVI Port**
- **1 x S-Video Output Connector**
- **1 x Composite Video Output Connector**

Packing List

- **1 x ARK-3380 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-3380-1S0A2E** — ULV Celeron M 1.0 GHz Embedded Box Computer, with DVI, LVDS, Audio, Fast Ethernet, S-Video, C-Video, 1 x RS-232, 1 x RS-232/422/485
- **ARK-3380-1S4A2E** — LV Pentium M 1.4 GHz, Embedded Box Computer, with DVI, LVDS, Audio, Fast Ethernet, S-Video, C-Video, 1 x RS-232, 1 x RS-232/422/485
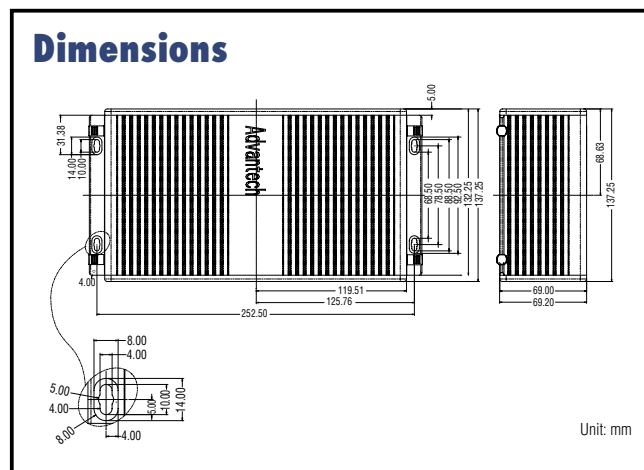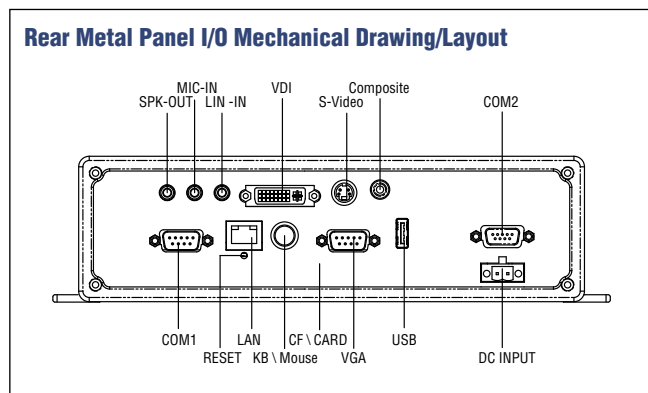
Optional Items

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 60 W 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)

- **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 (600MB)
- **2070001113** — XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 Traditional Chinese Version (600MB)
- **2070001114** — XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 German Version (600MB)
- **2070001115** — XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 French Version (600MB)
- **2070001116** — XPE with Feature Pack 2007 OS Image and License for ARK-3380/1/2/3/4/9 Italian Version (600MB)

Rear Metal Panel I/O Mechanical Drawing/Layout

Dimensions

Unit: mm

Benefits

Dual Display, Video Intensive Capacity

DVI, LVDS and TV-out display interfaces with AC97 stereo audio for the following diverse applications:

- Point of information
- Gaming
- Digital display broadcasting system

Highly Robust Casting Construction

- Fanless operation in aluminum sealed 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-3380 can be used under space critical installation conditions

Highly Scalable Performance with Low Power Consumption

Scalable Low Voltage and Ultra Low Voltage Pentium M class processor system to bring high computing performance with low power consumption

Optimized Integration

- Few parts, easy integration and easy maintenance for reduced 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

Applications

The ARK-3380 offers comprehensive multimedia I/O support featuring dual display, TV-out, DVI, LVDS and AC97 stereo audio.

- POI/POS
- Intelligent Traffic Surveillance
- KIOSK
- Machine Vision System
- Gaming
- Digital Casting System

Application Example

Point of Information Controller

Server

xDSL — Remote Access

LAN / WAN

ARK-3380 - POI Client

POI Content

VGA

TV Out

DVI

LVDS

Dual Display Capability

CRT Monitor   TV Set   LCD   PDP