

## AIMB-230

# Intel® HASWELL ULT Dual Core Mini-ITX with eDP/DP/DP++, 2 COM, and Dual LAN Startup Manual

### Packing List

Before you begin installing your card, please make sure that the following items have been shipped:

1. AIMB-230 Intel® HASWELL ULT Dual Core i5/Celeron Mini-ITX motherboard
2. SATA HDD cable x 2
3. SATA Power cable x 2
4. CPU cooler x1
5. I/O port bracket x 1
6. Startup manual x 1
7. Driver CD x 1
8. Warranty card x 1

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

**Note:** Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: [www.adobe.com/Prodindex/acrobat/readstep.html](http://www.adobe.com/Prodindex/acrobat/readstep.html) (Acrobat is a trademark of Adobe).

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>

<http://www.advantech.com/eplatform>

For technical support and service, please visit our support website at:

<http://www.advantech.com/support>

This manual is for the AIMB-230 series Rev.A1.

Part No. 2006023010

1st Edition,

Printed in China

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### Specifications

#### Standard SBC functions

- **CPU:** Supports Intel® HASWELL ULT Dual Core i5/ Celeron
- **BIOS:** AMI EFI 16 Mbits, SPI
- **Chipset:** Intel® Lynx Point-LP
- **System memory:** Up to 16 GB in two 204-pin SODIMM sockets. Supports DDR3L 1600 MHz SDRAM

**Note:** Due to the inherent limitations of PC architecture, the system may not fully detect 16 GB RAM when 16 GB RAM is installed.

- **SATA3 Interface:** Three on-board Serial ATA3 connectors with a data transmission rate of up to 600 MB/s supporting Advanced Host Controller Interface (AHCI) technology
- **mSATA Interface:**
  - One mSATA slot with data transmission
- **Serial ports:** Two serial ports
- **Keyboard/mouse connector:** Supports 5-pin wafer PS/2 keyboard and mouse
- **Watchdog timer:** 1~255 level timer intervals
- **USB 2.0:** Supports up to two USB 2.0 ports
- **USB 3.0:** Supports up to four USB 3.0 ports

#### Graphic Interface

- **Chipset:** Supports Intel HD Graphics Support DirectX 11.1, OpenGL 4.0, OpenCL 1.3, Full AVC, VC1, MPEG2 H/W encoder
- **Resolution:** Supports HDMI 1.4 for HD Video playback Max resolution up to 3200 x 2000 at 60 Hz on Display-Port, 4096 x 2304 at 24 Hz on HDMI and single channel 24-bit/ dual channel 48-bit LVDS, Max 1920 x 1200 @ 60 Hz, DP++

#### Ethernet Interface

- **Interface:** 10/100/1000 Mbps
- **Controller:** LAN1: Realtek RTL8111E-VB-GR; LAN2: Realtek RTL8111E-VB-GR

#### Mechanical and Environmental

- **Dimensions (L x W):** 170 x 170 mm
- **Power supply voltage:** DC 12V
- **Operating temperature:** 0 ~ 60° C
- **Weight:** 0.365 kg (weight of board)

# Jumpers and Connectors

The board has a number of connectors and jumpers that help configure the system to suit your application requirements. The tables below list the functions of the connectors and jumpers.

Label	Function
SATA1 ~ SATA3	SATA Signal Connector
SATA_PWR1 ~ SATA_PWR3	SATA Power Connector
ATX12V_1	ATX 12V Power Supply Connector
USB56	USB Header
LVDS1	LVDS Panel Connector
INV1	LVDS Backlight Inverter Power Connector
Top of DP+HDMI1	DP/HDMI Connector
DP1	DP++ Connector
LAN1, LAN2, USB12, USB34	RJ45+USB 3.0 Stack Connector
COM1, COM2	COM Port
MINIPCIE1	F/S MINIPCIE & mSATA Connector
MINIPCIE2	H/S MINIPCIE
CPUFAN1	CPU FAN Power Connector
SYSFAN1	SYSTEM FAN Power Connector
JFP2	HDD LED/SMBUS/Speaker Pin Header
KBMS1	PS/2 Keyboard and Mouse 5-pin Wafer
BAT1	Battery Wafer
CPU1	CPU
JFP1	Power Switch/Reset Switch
DIMMA1, DIMMB1	DDR3 SO-DIMM Socket
GPIO1	General Purpose I/O Pin Header
SPDIF_O1	HD Digital Audio Interface
AUDIO1, FP_AUDIO1	HD Analog Audio Interface
ATX12V1, ATX12V2	ATX Power Supply Connector
DCIN1	12 V DC Input
BIOS1	BIOS Socket
LPC1	Low Pin Count Header

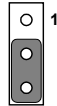
## CMOS1: Clear CMOS

Closed Pins	Result
1-2*	Keep CMOS data*
2-3	Clear CMOS data

\* Default



Keep CMOS data

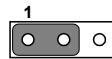


Clear CMOS

## PSON1: ATX, AT Mode Selector

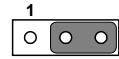
Closed Pins	Result
1-2	AT Mode
2-3*	ATX Mode*

\* Default



AT Mode

1-2 closed



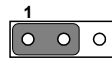
ATX Mode

2-3 closed

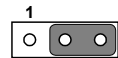
## JWDT1: Watchdog Timer Output Option

Closed Pins	Result
1-2	NC (Watchdog Timer Disabled)
2-3*	System reset* (Reset System when Watchdog Timer Triggered)

\* Default



NC 1-2 Closed

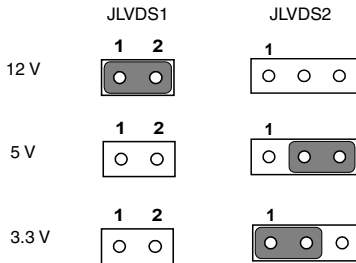


System Reset 2-3 Closed

## Jumpers and Connectors

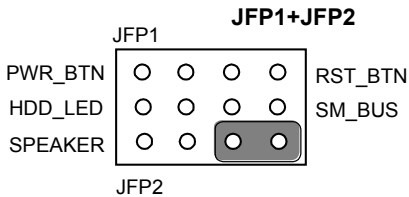
### JLVDS1/JLVDS2: Voltage 3.3 V / 5 V / 12 V Selector Connector

Closed Pins	Result
JLVDS1	
1-2	For 12 V LVDS Panel
JLVDS2	
1-2	For 3.3 V LVDS Panel
2-3	For 5 V LVDS Panel



**Note:** JLVDS1 and JLVDS2 can't be used at the same time, or else M/B would be damaged.

## Installation Note



## Declaration of Conformity

The device complies with the requirements in Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference;
2. This device must accept any interference received, including interference that may cause undesired operation.

## Software Installation

The CD disc contains a driver installer program that will lead you through the installation as various device drivers are needed to take full advantage of your motherboard.

## CAUTION

The computer is supplied with a battery-powered real-time clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.

# Board Diagram

