

AIMB-503 Intel® Core™ i7/i5/i3 LGA1150 MicroATX with CRT/DP/DVI/LVDS, 10 COM, 4 USB 3.0, 7 USB 2.0, Dual LAN

Startup Manual

Packing List

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

- AIMB-503 Intel LGA1150 Core i7/i5/i3 Micro ATX Motherboard
- SATA HDD cable x 2
- I/O port bracket x 1
- Startup manual x 1
- Driver CD x 1
- Warranty card x 1
- COM port cable kit x 3

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

Note1: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: www.adobe.com/Prodindex/acrobat/readstep.html (Acrobat is a trademark of Adobe).

Specifications

Standard SBC functions

- **CPU:** Intel LGA1150 Core i7/i5/i3/Pentium
- **BIOS:** AMI 128-Mbit SPI
- **Chipset:** B85/H81 chipset
- **System memory:** Up to 16 GB; 240-pin DIMM x 2, Supports dual channel DDR3 1333/1600 SDRAM
Due to the inherent limitations of PC architecture, the system may not fully detect 16 GB RAM when 16 GB RAM is installed.
- **SATA3/2 Interface:** Two on-board serial ATA3, one on-board serial ATA2 and One mSATA connectors with a data transmission rate of up to 600 MB/s supporting Advanced Host Controller Interface(AHCI) technology.
- **Serial ports:** Ten serial port, 2 of RS-232/422/485 (support auto flow control) and 8 of RS-232
- **Parallel port:** One parallel port, support SPP/EPP/ECP mode
- **Keyboard/mouse connector:** Support one standard PS/2 keyboard, one standard PS/2 mouse
- **Watchdog timer:** 1 ~ 255 level timer intervals
- **USB(3.0 / 2.0):** Support up to four USB 3.0 and seven USB 2.0 ports, four external ports and seven onboard pin headers

Graphic Interface

- **Controller:** Core i7-4770S Core i7-4770TE Core i5-4570S Core i5-4570TE Core i3-4330 Core i3-4330TE CPUs are embedded with integrated Intel HD graphics
- **CRT1:** Up to 1920 x 1200 @ 60Hz refresh rate resolution, 180MHz RAMDAC
- **Display port:** Up to 3200 x 2000 resolution
- **DVI interface:** Up to 2560 x 1600@ 60Hz refresh rate
- **LVDS:** Supports up to 1920 x 1200 resolution

Ethernet Interface

- Single 10/100/1000Base-T GbE LAN1 Realtek 8111E
- Single 10/100/1000Base-T GbE LAN2 Realtek 8111E

Mechanical and Environmental

- **Dimensions (L x W):** 244 x 244 mm
- **Power supply voltage:** +5 V, +12 V, +3.3 V, +5 VSB, -12 V
- **Power consumption:**
Intel® Core™ i7-4770S CPU @ 3.10GHz + DDR3 8G X2 1600 + SATA H.D.D,5V 1.41A,+3.3V 1.14A,12V 4.8A,-12V 0.13A,5Vsb 0.42A
Measure the maximum current value which system under maximum load (CPU: Top speed, RAM & Graphic: Full loading)
- **Operating temperature:** 0 ~ 60° C (depends on CPU speed & cooler solution)
- **Weight:** 0.5 kg (weight of board)

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-503 series Rev. A1.

Part No. 2006050300
Printed in China

1st Edition
March 2014

Connectors and Jumpers

The board has a number of connectors and jumpers that allow you to configure your system to suit your application.

The table below lists the function of each of the connectors and jumpers.

Connectors	
Label	Function
VGA1+DVI1	VGA1/DVI1 connector
DP1	DP connector
INV1	Inverter Power Output
LVDS1	LVDS connector
LANLED1	LAN LED
LAN2_USB12; LAN1_USB45	LAN&USB External Connector
FPAUD1	Front audio header
JSETCOM1_V1/ JSETCOM2_V1	COM1 RI# pin RI#/5V/12V Select
AUDIO1	Line out / Mic in connector
SATA1/2/3	SATA1/2/3 on board connector
USB3/67/89/1011	USB on board connector
SPI_CN	SPI connector
LPT1	Print port
COM1/COM2	Serial port 1/2 on board connector
COM3456/ COM78910	Serial port 3/4/5/6/7/8/9/10 on board connector
KBMS2	KB/MS header
KBMS1	KB/MS connector
CPUFAN1	CPU FAN connector
SYSFAN1/SYS- FAN2	System fan connector
GPIO1	GPIO connector
VOLT1	VOLT connector
JCASEOP_SW1	Case open selection pin header
JIR1+JOBS1 +JWDT1	CIR interface, Watchdog Timer Output and OBS Beep
SMBUS1	SMBUS header
JFP1+JFP2	Power and Reset Button connector+HDD LED/SNMP SMbus/Speaker connector
JSETCOM3 and JSETCOM7	COM3 and COM7 RS-232/422/485 jumper setting
JCMOS1	BIOS CMOS / ME Data clear
JLVDS_VCON1	LVDS VESA, JEIDA format selection pin header
JLVDS1	LVDS Panel power setting

JUSBPWR12/ JUSBPWR34/ JUSBPWR5-8/ JUSBPWR9-12	USB Port power select
PSON1	AT mode (1-2); ATX mode (2-3)

CMOS1: Clear CMOS

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

*: Default



Keep CMOS data



Clear CMOS

JSETCOM3/7: COM3/7 RS232/422/485 Mode Selector

Users can use JSETCOM3/7 to select among RS 232/422/485 modes for COM3/7. The default setting is RS 232.

RS-232 Configuration (default)	
RS-422 Configuration	
RS-485 Configuration	

PSON1: ATX, AT Mode Selector

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

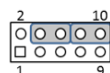
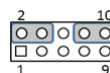
*: Default

JIR1+JOBS1+JWDT1: CIR interface, OBS Beep and Watchdog Timer Output

Closed Pin Result

2-4	NC (Watchdog Timer Disabled)
4-6*	System reset* (Reset system when watchdog timer triggered)

* Default



Declaration of Conformity

This 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 of various device drivers needed to take full advantage of your CPU card.

Caution!



The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if 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

