

AIMB-280 (Intel® Core™ i7/i5/i3/Pentium® socket LGA1156 Mini-ITX with DVI/VGA, DDR3, 2 COM, Dual LAN, PCIe x16)

Startup Manual

Packing List

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

1. AIMB-280 Intel® Core™ i7/i5/i3/Pentium socket LGA1156 Mini-ITX motherboard
2. SATA HDD cable x 2
3. SATA Power cable x 2
4. I/O port bracket x 1
5. Startup manual x 1
6. Driver CD x 1
7. 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 (Acrobat is a trademark of Adobe).

Specifications

Standard SBC functions

- **CPU:** Intel LGA1156 Intel® Core™ i7/i5/i3/Pentium®
- **BIOS:** AMI 64 Mb SPI BIOS
- **Chipset:** Intel® Q57 Chipset
- **System memory:** Up to 4 GB one 240-pin DIMM sockets. Supports DDR3 800/1066/1333 SDRAM

Note: Due to the inherent limitations of PC architecture, the system may not fully detect 4 GB RAM when 4 GB RAM is installed.

- **SATA2 Interface:** Four on-board Serial ATA2 connectors with a data transmission rate of up to 300 MB/s supporting Advanced Host Controller Interface (AHCI) technology
- **Serial ports:** Two serial ports, both COM1 and COM2 only support RS-232
- **Keyboard/mouse connector:** Supports standard PS/2 keyboard and mouse
- **Watchdog timer:** 1~255 level timer intervals
- **USB 2.0:** Supports up to eight USB 2.0 ports

Graphic Interface

- **Chipset:** Supports Intel® HD Graphics, only Core™i5-600, Core™i3-500 and Pentium® CPUs are embedded with integrated graphics
- **Display Memory:** 1GB maximum shared memory with 2GB and above system memory installed
- **Resolution:** Supports DVI up to resolution 1920 x 1200 @ 60Hz refresh rate Supports VGA up to resolution 2048 x 1536 @ 75Hz refresh rate

Ethernet Interface

- **Interface:** 10/100/1000 Mbps
- **Controller:** LAN1: Intel 82578DM; LAN2: Intel® 82583V

Mechanical and Environmental

- **Dimensions (L x W):** 170 x 170 mm
- **Power supply voltage:** +3.3 V, +5 V, ±12 V, 5 Vsb
- **Power requirements:**
Intel® LGA1156 Core™i5 3.33 GHz, 4 MB L2 cache, 2 GB DDR3 1333 MHz +5 V @ 1.85 A, +3.3 V @ 0.73 A, +12 V @ 3.14 A, 5 VSB @ 0.31 A, -12 V @ 0.11 A, Measure the maximum current value which system under maximum load (CPU: Top speed, RAM & Graphic: Full loading)
- **Operating temperature:** 0 ~ 60° C
- **Weight:** 0.365 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-280 series Rev.A1.

Part No. 2002028010

1st Edition,

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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 function of each of the connectors and jumpers.

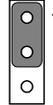
Label	Function
JFP1+JFP2	Power switch/HDD LED/SMBus/ Speaker
JFP3	Power LED and Keyboard lock
JCMOS1	CMOS clear (Default 1-2)
JMECLR1	ME clear (Default 1-2)
PSON1	AT(1-2) / ATX(2-3) (Default 2-3)
JWDT1+JOBS1	Watchdog Reset and OBS Alarm
JCASE1	Case Open pin header
USB56	USB port 5, 6 (on board)
USB78	USB port 7, 8 (on board)
VGA1+DVI1	VGA and DVI connector
COM12	Serial port connector(RS232)
KBMS1	PS/2 Keyboard and Mouse connector
CPUFAN1	CPU FAN connector(4-pin)
SYSFAN1	System FAN1 connector(4-pin)
SYSFAN2	System FAN2 connector(4-pin)
LAN1_USB12	LAN1 / USB port 1, 2
LAN2_USB34	LAN2 / USB port 3, 4
AUDIO1	Audio connector
SPDIF_OUT1	SPDIF Audio out pin header
LPC1	Low pin count pin header
PCIEX16_1	PCIe x16 Slot
SATA1	Serial ATA data connector 1
SATA2	Serial ATA data connector 2
SATA3	Serial ATA data connector 3
SATA4	Serial ATA data connector 4
DIMMA1	Memory connector channel
SPI_CN1	SPI flash update connector
ATX12V_1	ATX 12V Auxiliary power connector(for CPU)
ATX1	ATX 20 Pin Main power connector (for System)
LANLED1	LAN1/2 LED extension connector

Jumpers and Connectors

CMOS1: Clear CMOS

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

* Default



Keep CMOS data

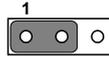


Clear CMOS

PSON1: ATX, AT Mode Selector

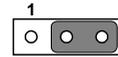
Closed Pins Result	
1-2	AT Mode
2-3*	ATX Mode*

* Default



AT Mode

1-2 closed



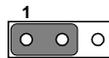
ATX Mode

2-3 closed

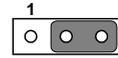
JWDT1: Watchdog Timer Output Option

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

Installation Note

JFP3

5	4	3	2	1
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JFP1+JFP2

10	7	4	1
11	8	5	2
12	9	6	3

JFP1+JFP2	
Pin.3	#PWR_SW
Pin.6	GND
Pin.9	#RST_SW
Pin.12	GND

*Power button pins are numbers 3 & 6 of front panel connector.

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

