ADVANTECH

AIMB-705 LGA1151 Intel® Core™ i7/i5/i3 ATX with Dual Display, DDR4, SATA III
Startup Manual

Packing List

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

- 1 AIMB-705 motherboard
- 1 Startup Manual
- 1 Driver CD (user's manual is included)
- 2 Serial ATA HDD data cables
- 1 Serial ATA HDD power cable
- 1 I/O port bracket
- 1 Warranty card

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/Products/acrobat/readstep2.html (Acrobat is a trademark of Adobe)

Specifications

Standard Functions

- **CPU:** LGA1151 socket supporting 6th and 7th Gen Intel® Core™ i7/i5/i3/ and Pentium™/Celeron™ processors

Note: Only 6th Gen Intel® processors can support Windows 7.

- **BIOS:** AMI 128 Mb SPI BIOS
- **Chipset:** Intel® H110 chipset
- **System memory:** Up to 32 GB in two 288-pin DIMM sockets, supporting dual-channel DDR4 1866/2133 SDRAM. AIMB-705 supports non-ECC unbuffered DIMMs and does not support any memory configuration that mixes non-ECC with ECC unbuffered DIMMs.

Note: Due to the inherent limitations of PC architecture, the system may not fully detect 32 GB RAM when 32 GB RAM is installed.

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-705 series Rev. A1.

Specifications (Cont.)

- **SATA interface:** Four on-board Serial ATA III connectors support data transmission rates of up to 600 MB/s. All four SATA III ports support Advanced Host Controller Interface (AHCI) technology.
- **PCIe and PCI slots:** 1 PCIe x16 expansion slot, 1 PCIe x4 expansion slot, 5 PCI slots 32-bit / 33 MHz PCI 2.2 compliant
- **LPC interface:** Advantech-designed LPC connector supports dTPM 2.0 module
- **Serial ports:** Up to six serial ports: COM1, COM2 and COM4 ~ 6 are RS-232; COM3 is RS-232/422/485 with jumper and BIOS options
- **Keyboard/mouse connector:** Supports standard PS/2 keyboard and mouse
- **Watchdog timer:** 255 sec timer intervals
- **USB 3.0:** Up to 4 (2 x pin header, 2 x rear I/O)
- **USB 2.0:** Up to 5 (2 x pin header, 2 x rear I/O, 1 x vertical Type-A)

Graphics Interface

- **Chipset:** CPU integrated Intel® HD graphics controller
- **Display memory:** 1 GB maximum shared memory with 2 GB and above system memory installed
- **Resolution:**
  - Supports VGA up to 1920 x 1200 resolution @ 60 Hz refresh rate
  - Supports DVI up to 1920 x 1200 resolution @ 60 Hz refresh rate

Ethernet Interface

- **Interface:** 10/100/1000 Mbps
- **Controller:** LAN1: Intel® I219-V; LAN2 (G2 SKU only): Intel® I210-AT.

Mechanical and Environmental

- **Dimensions (L x W):** 304.8 x 244 mm (12" x 9.6")
- **Power supply voltage:** +3.3 V, +5 V, +12 V, +5 Vsb
- **Power Consumption:**
  Intel® Core™ I7-6700 @ 3.4 GHz; DDR4 8 G x 2 Maximum: +3.3 V at 0.49 A, +5 V at 3.13 A, +12 V at 7.88 A, +5 Vsb at 0.08 A, -5 V at -0.07 A, -12 V at -0.07 A
- **Operating temperature:** 0 ~ 60 °C (depending on CPU)
- **Weight:** 0.5 kg (weight of board)

Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each jumper and connector.

Connector / Jumper List

Label	Function
EATXPWR1	ATX 24-pin main power connector (for system)
ATX12V1	ATX 12 V auxiliary power connector (for CPU)
DIMMA1	Channel A DIMM1
DIMMB1	Channel B DIMM1
SATA0 ~ 3	SATA III (Gen3)
LAN1_USB3_34	LAN1 / USB 3.0 port 1, 2 stack connector
LAN2_USB34	LAN2 / USB 2.0 port 1, 2 stack connector
USB3_12	USB 3.0 (pin header)
USB5	USB 2.0 (Type-A)
USB910	USB 2.0
PCIEX16_1	PCIe x16 slot (Gen3)
PCIEX4_1	PCIe x4 slot (Gen2)
PCI1 ~ 5	PCI slot (32-bit / 33 MHz)
VGA1+DVI1	VGA connector / DVI connector
VGA1	VGA connector
COM12	Serial port: RS-232 (DB-9 connector)
COM3	Serial port: RS-232/422/485 (9-pin header, G2 SKU only)
COM4 ~ 6	Serial port: RS-232 (9-pin header, G2 SKU only)
KBMS1	Keyboard and mouse PS/2 connector
KBMS2	Keyboard and mouse PS/2 connector (box header)
JFP1	Power switch / reset connector
JFP2	External speaker / HDD LED connector / SM Bus connector
JFP3	Keyboard lock and power LED Suspend: fast flash (ATX/AT) System on: ON (ATX/AT) System off: OFF (AT/ATX)
VOLT1	Voltage display
CPUFAN1	CPU fan connector (4-pin)
SYSFAN1 ~2	System fan connector (4-pin)
LANLED1	Front panel LAN indicator connector

Jumpers and Connectors (Cont.)

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AUDIO1	Audio connector (Line-Out, Mic-In)
FPAUD1	Front panel audio pin header
SPI_CN1	SPI flash card pin header
SPDIF_OUT1	SPDIF audio output pin header
GPIO1	8-bit GPIO from super I/O
SMBUS1	SM bus from PCH
LPC1	Low pin count connector for Advantech dTPM 2.0 LPC and RS232 modules.

JCMOS1/JME1: Clear CMOS / ME Update Function

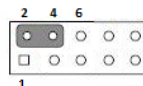| Pins	Result
1-2	Keep CMOS data / Enable ME update*
2-3	Clear CMOS data / Disable ME update
* Default	
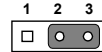
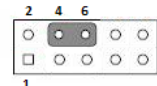*Keep CMOS data/ Enable ME update   *Clear CMOS data/ Disable ME update

JWDT1: Watchdog timer output option

Closed Pins	Result
2-4	NC
4-6	System reset*
* Default	

NC 2-4 closed   *System Reset 4-6 closed

PSON1: ATX, AT Mode Selector

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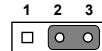
AT Mode 1-2 closed   *ATX Mode 2-3 closed

Jumpers and Connectors (Cont.)

JUSB_2: USB Power Source Switch Between +5V and +5V_ DUAL for Onboard USB Ports

Closed Pins	Result
1-2	*USB +5V_DUAL Power
2-3	USB +5V Power
* Default	

*USB +5 V_DUAL Power   USB +5 V Power

Software Installation

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

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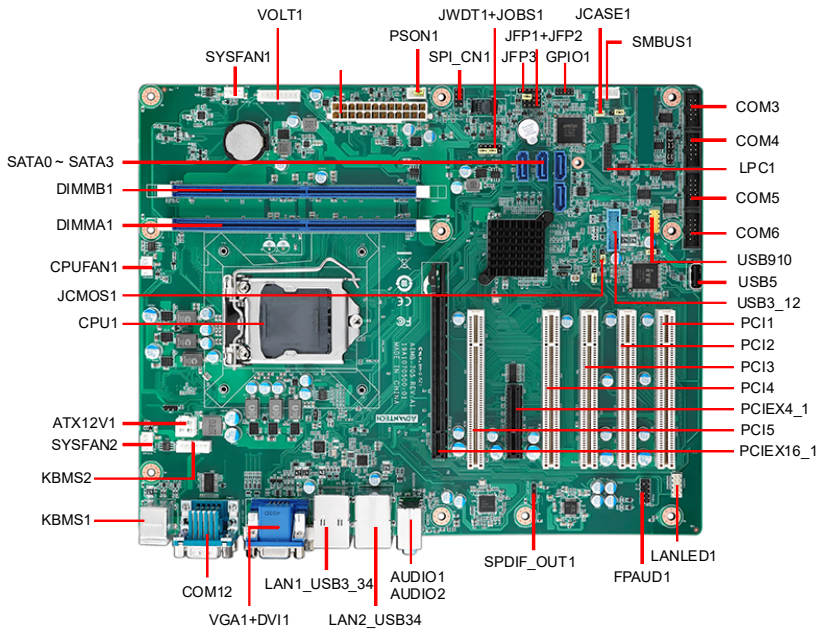
Declaration of Conformity

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.

Board Layout