ADVANTECH

ASMB-585 Intel LGA1151 Xeon E3-1200 v5 /Core i3/i5/i7 series Micro ATX Server Board with 4 x PCIe slots, 6 x USB3.0, 4 x GbE ports
Startup Manual

Packing List

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

- 1 ASMB-585 Startup Manual
- 1 Driver CD (user's manual is included)
- 2 Serial ATA HDD data cables
- 2 Serial ATA HDD power cables
- 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: http://www.adobe.com/downloads/ (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/applied-computing-systems/

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

http://support.advantech.com.tw/support/new_de-fault.aspx

This manual is for the ASMB-585 series Rev. A1

Specifications

Standard SBC Functions

- **CPU:** Intel LGA1151 Xeon E3-1200 v5 /Core i3/i5/i7 series processors
- **BIOS:** AMI 128 Mb SPI BIOS
- **Chipset:** Intel® C236
- **System memory:** Dual Channel DDR4 ECC/Non-ECC 1600/1866/2133 MHz unbuffered DIMM, Max. 64 GB

Note: Due to the inherent limitations of PC architecture, the system may not fully detect 32 GB RAM when 64 GB RAM is installed.

- **SATA3 Interface:** 7 SATA3 6Gb/s ports to support Intel Matrix Storage with software RAID 0, 1, 10 & 5. (for Windows only)
- **Serial ports:** Six serial ports, only supports RS-232
- **Keyboard/Mouse connector:** Supports standard PS/2 keyboard and mouse via KMBS1 pin header
- **Watchdog timer:** 255 level timer intervals (sec)
- **USB 3.0:** Supports up to Six USB 3.0 ports. Four ports are in rear I/O, and two ports are on-board pin header.
- **USB 2.0:** Supports up to seven USB 2.0 ports (1* Type-A)

Display 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 RGB 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® I219LM; LAN2 ~ LAN4: Intel® I201AT

Mechanical and Environmental

- **Dimensions (L x W):** 244 x 244 mm (9.6" x 9.6")
- **Power supply voltage:** +3.3 V, +5 V, ±12 V, 5 Vsb
- **Power consumption:** Max. load: +3.3 V @ 17.57 A, +5 V @ 20.5 A, +12 V @ 16.74 A, +12 V (8P) @ 23.27 A, +5 Vsb @ 2 A, -12 V @ 0.3 A
- **Operating temperature:** 0 ~ 60° C (Depends on CPU speed and cooler solution)
- **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 list	
Label	**Function**
ATXPWR1	ATX 24 Pin main power connector (for System)
ATX12V1	Processor power connector(for CPU)
SATA0~6	SATA III (6Gb/s)
USB7_8, USB9_10, USB11_12	USB 2.0 Port (Header)
USB13	USB 2.0 Port (USB Type A)
USB3_4	USB 3.0 Port (Header)
PCIEX4_SLOT4	PCIe x4 slot (Gen3 x4 link)
PCIEX4_SLOT5	PCIe x4 slot(Gen3 x1 link)
PCIEX16_SLOT6	PCIe x16 slot (Gen3 x16 link)
PCIEX4_SLOT7	PCIe x4 slot(Gen3 x4 link)
DIMMA0,DIMMA1, DIMMB0,DIMMB1	DDR3 slot
CPUFAN0	CPU FAN connector
SYSFAN0,SYSFAN1, SYSFAN2,SYSFAN3	System FAN connector
LAN1_USB1_2, LAN2_USB5_6	LAN1 / USB 3.0 port 1, 2 stack connector LAN2 / USB 2.0 port 5, 6 stack connector
LAN3_4	LAN3 & LAN4 connector
VGA1_COM1	VGA connector
DVI1_DVI2	DVI-D connector
KBMS1	External keyboard and mouse connector(6 pin)
SPI_CN1	SPI flash card pin header
LANLED1	LAN LED extension connector
SMBUS1	SM Bus From PCH
GPIO1	8-bit GPIO header
FPAUD1	Audio front panel header
COM2, COM3_4, COM5_6	Serial port: RS-232
LPC1	Low pin count connector for Advantech TPM LPC and RS232/485 modules.
VOLT1	Voltage Display

Jumpers and Connectors (Cont.)

Connector list	
AUDIO1	Audio Connector
BH2	For optional battery kit
EX_THR1	For thermometer kit
SGPIO1, SGPIO2	Serial General Purpose I/O
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 (ATX/AT)
SPDIF_OUT1	SPDIF Audio output pin header

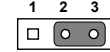| Jumper list	
Label	**Function**
JCMOS1	CMOS clear
JME1	Intel ME Disable Jumper for ME/ BIOS update
JWDT1	Watch Dog Reset
JUSB1	Rear window USB2.0/3.0 port power source switch between +5 VSB and +5 V
JUSB2	On board USB2.0/3.0 port power source switch between +5 VSB and +5 V
CPUFAN_SEL1,SYSFAN_SEL1	FAN PWM(1-2)/DC mode selection(2-3)
PSON1	AT(1-2) / ATX(2-3)
JCASE1	Case Open
JPEG1, JPEG2	x16 or x8x8 or x8x4x4
JGREEN1	Enable/Disable deep sleep mode
JTHR_SEL1	To select on board or external thermometer

Jumpers and Connectors (Cont.)

JWDT1: Watchdog timer output option

Closed Pins	Result
1-2	System reset*
2-3	NC
*: Default	

1　2　3　　　　　1　2　3

System Reset 1-2 Closed　　　NC 2-3 Closed

PSON1: ATX, AT mode selector

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

1　2　3　　　　　1　2　3

AT Mode 1-2 closed　　　ATX Mode 2-3 closed

JCMOS1/JME1: CMOS clear/ME update function

Closed pins	Result
1-2	Keep CMOS data/Disable ME update*
2-3	Clear CMOS data/Enable ME update
*: Default	

1　2　3　　　　　1　2　3

Keep CMOS data/Disable ME update　　Clear CMOS data/Enable ME update

PCIEX16_Slot6 Configuration Table (JPEG2, JPEG1)

Function	Jumper Setting	
Slot6 PCIe x16 (Default)	1 2 3 — JPEG2 : 1 and 2	1 2 3 — JPEG1 : 1 and 2
Slot6 PCIe x8x8	1 2 3 — JPEG2 : 1 and 2	1 2 3 — JPEG1 : 2 and 3
Slot6 PCIe x8x4x4	1 2 3 — JPEG2 : 2 and 3	1 2 3 — JPEG1 : 2 and 3

Installation Note

JFP1 & JFP2						
	3	6	9	12	PWRSW	RESET
	2(+)	5(-)	8	11	HDDLED	SNMP SM_BUS
	1(+)	4	7	10(-)	SPEAKER	
JFP3	1	2	3	4	5	PWRLED & KEYLOCK

JFP1, JFP2

Pin.3	#PWR_SW
Pin.6	GND
Pin.9	#RST_SW
Pin.12	GND

*Power button pin is located in Pin 3 & 6 of front panel connector

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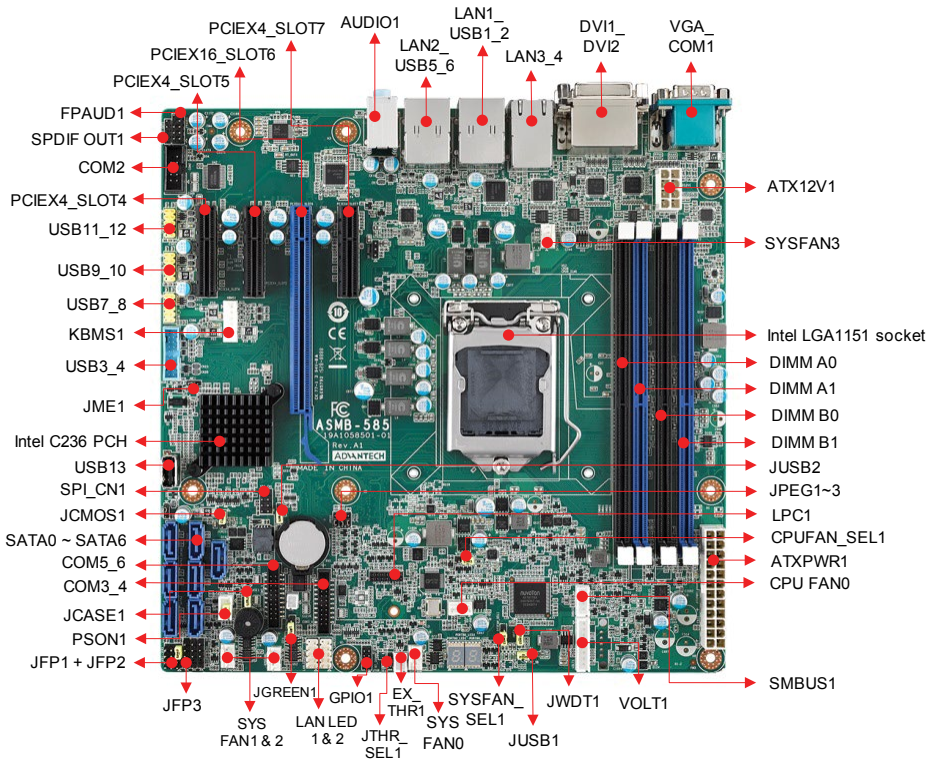
The computer is supplied with a battery-powered realtime clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.

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

Board Layout: Jumper and Connector Locations