ASMB-782 LGA 1155 Intel® Xeon® E3 V2 ATX Server Board with 2 PCIe x16 slots (x8 link), 2 PCIe x4, USB 3.0, PCIe Gen III, Quad LANs

Startup Manual

Packing List

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

- 1 ASMB-782 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_default.aspx

This manual is for the ASMB-782 series Rev. A1

Part No. 2006S78210 1st Edition,
Print in China July 2012

Specifications

Standard SBC Functions

- **CPU:** LGA 1155 Intel® Xeon® E3 / E3 v2 / 2nd and 3rd Core™ i3 / Pentium processors
- **BIOS:** AMI 64 Mb SPI BIOS
- **Chipset:** Intel® C216
- **System memory:** Dual Channel DDR3 ECC/Non-ECC 1066/1333/1600 MHz unbuffered DIMM, Max. 32 GB

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

- **SATA2/SATA3 Interface:** 4 SATA2 3 Gb/s ports, 2 SATA3 6Gb/s ports to support Intel Matrix Storage with software RAID 0, 1, 10 & 5. (for Windows only)
- **Serial ports:** Two serial ports, only support RS-232
- **Parallel port:** One parallel port, supports SPP/EPP/ECP modes.
- **Keyboard/mouse connector:** Supports standard PS/2 keyboard and mouse
- **Watchdog timer:** 255 level timer intervals
- **USB 3.0:** Supports up to four USB 3.0 ports. Two ports are in rear I/O, and two ports are on-board pin header.
- **USB 2.0:** Supports up to ten USB 2.0 ports (2* Type-A)

VGA 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 2048 x 1536 resolution @ 75 Hz refresh rate
  Supports DVI up to 1920 x 1200 resolution@ 60 Hz refresh rate (DVI cable kit is an optional accessory)

Ethernet interface

- **Interface:** 10/100/1000 Mbps
- **Controller:** LAN1:Intel® 82579LM; LAN2/3/4: Intel® 82574L

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:** Max. load: +3.3V at 4.69A, +5V at 1.39A, +12 V at 0.4 A, +12 V(8P) at 3.01A, +5 Vsb at 1.95A, -12 V @ 0.01 A
- **Operating temperature:** 0 ~ 60° C (depending on CPU)
- **Weight:** 0.5 kg (weight of board)

Jumpers and Connectors

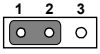
The board has a number of jumpers that allow you to configure your system to suit your application. The table below lists the function of each jumper and connector.

Connector list	
Label	**Function**
ATX24P_P1	ATX 24 Pin main power connector (for System)
ATX8P_P1	Processor power connector(for CPU)
SATA2~5	SATAII (3Gb/s)
SATA0~1	SATA III (6Gb/s)
USB78, USB910, USB1112	USB 2.0 Port 7,8,9,10,11,12 (Header)
USB13, USB14	USB 2.0 Port 13, 14 (USB Type A)
USB34	USB 3.0 Port 3 4 (Header)
USB12	USB 3.0 Port 1 2
PCIE2, PCIE7	PCIE x4 slot
PCIE5,PCIE6	PCIE x16 slots (x8 link)
DIMMA0,DIMMA1, DIMMB0,DIMMB1	DDR3 Slot
CPUFAN1	CPU FAN connector
SYSFAN1,SYSFAN2, SYSFAN3,SYSFAN4	System FAN connector
LAN1_USB12, LAN2_USB56	LAN1 / USB port 1, 2 stack connector LAN2 / USB port 5, 6 stack connector
LAN34	LAN 3,4 stack connector
USB56	USB 2.0 Port 5 6
VGA_COM1	VGA+COM connector
DVI1	Pin header of DVI-D (optional)
KBMS1	PS/2 keyboard and mouse connector
KBMS2	External keyboard and mouse connector(6 pin)
SPI1	SPI socket
SPI_CN1	SPI flash card pin header
LANLED1, LANLED2	LAN LED extension connector
SMBUS1	SM Bus From PCH
SNMP1	SM Bus from HW Montior IC
GPIO1	GPIO header
FPAUD1	Audio front panel header

Connector list	
LPT1	Parallel port
COM2	Serial port: RS-232
JFP1	Front panel header
PMBUS1	PMBUS connector to communicate with power supply
LPC1	Low pin count connector for Advantech TPM LPC modules
LANLED1	LAN1/2 LED extension connector
LANLED2	LAN3/4 LED extension connector
VOLT1	Voltage Display

Jumper list	
Label	**Function**
JCMOS1	CMOS clear
JME1	Intel ME Disable Jumper for ME/ BIOS update
JWDT1	Watch Dog Reset
JGREEN1	Deep sleep Sx mode
JUSB_1,JUSB_2	USB port and KBMS 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)

JCMOS1, JMECLR1: CMOS and ME clear function	
Pins	Result
1-2	Keep CMOS and ME data*
2-3	Clear CMOS and ME data
*: Default	

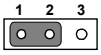


Keep CMOS/ME data

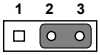
Clear CMOS/ME data

Jumpers and Connectors

JWDT1: Watchdog timer output option	
Closed Pins	Result
1-2	System reset*
2-3	NC
*: Default	

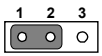


System Reset 1-2 Closed

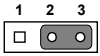


NC 2-3 Closed

PSON1: ATX, AT mode selector	
Closed Pins	Result
1-2	AT Mode
2-3	ATX Mode*
*: Default	



AT Mode 1-2 closed



ATX Mode 2-3 closed

Installation Note

JFP1

2	4	6	8	10	12	14	16
1	3	5	7	9	11	13	15

RSTBTN	Case Open	SPEAKER	
PWRBTN	HDDLED	PWRLED	NC

JFP1	
Pin.1	#PWR_SW
Pin.3	GND
Pin.2	#RST_SW
Pin.4	GND

*Power button pin is located in Pin 1 & 3 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.

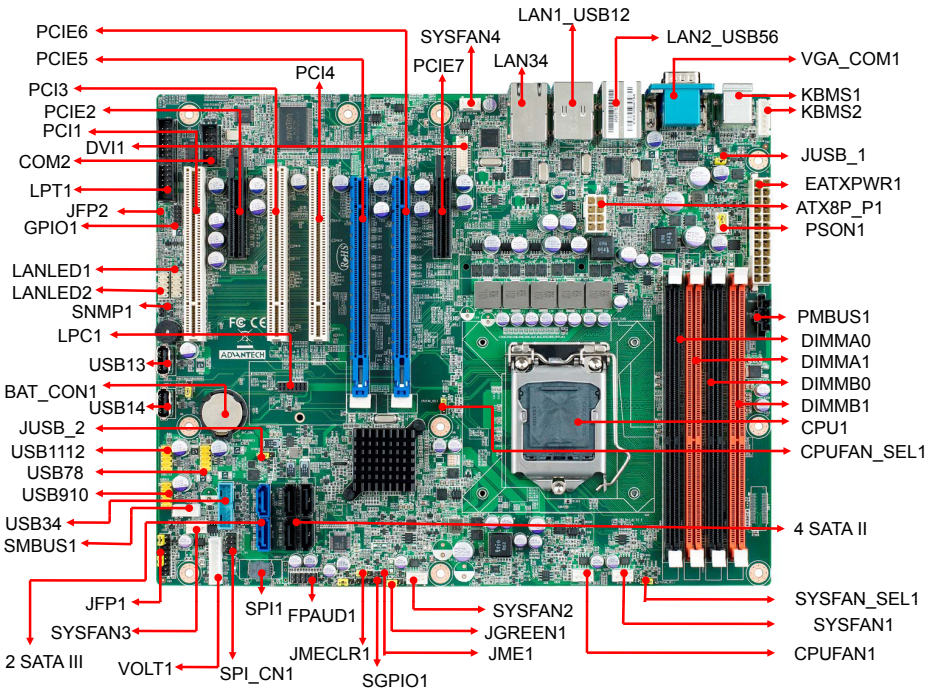
The computer is supplied with a battery-powered realtime clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.

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