

ASMB-781 Intel® Xeon® E3/ Core™ i3 Single 1155 Socket ATX Server Board with 2 PCIe x16 Expansion Slots

Startup Manual

Packing List

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

- 1 ASMB-781 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: www.adobe.com/Products/acrobat/readstep2.html (Acrobat is a trademark of Adobe)

Specifications

Standard SBC Functions

- **CPU:** LGA1155 Intel® Xeon® E3/ Core™ i3
- **BIOS:** AMI 64 Mb SPI BIOS
- **Chipset:** Intel® C206
- **System memory:** Dual Channel DDR3 ECC/Non-ECC 1066/1333 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 Intel® Matrix Storage (for Windows® only) (Supports software RAID 0, 1, 10, & 5)
- **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 2.0:** Supports up to twelve USB 2.0 ports (2* Type-A)

VGA Interface

- **Chipset:** Aspeed AST2300/1300
- **Display Memory:** 64 MB
- **Resolution:** Supports VGA up to resolution 1920 x 1200 @ 60 Hz refresh rate

Ethernet interface

- **Interface:** 10/100/1000 Mbps
- **Controller:** LAN1: Intel® 82579LM; LAN2: Intel® 82574L; LAN3/4: Intel® 82580DB (optional)

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: +3.3 V @ 2.74 A, +5 V @ 1.12A, +12 V @ 0.08 A, +12 V(8P) @ 4.86 A, +5 Vsb @ 1.81A, -12 V @ 0.01 A
- **Operating temperature:** 0 ~ 60° C (depending on CPU)
- **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 ASMB-781 series Rev. A1

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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)
SATA1-SATA6	Serial ATA1-6
USB56,USB78, USB910	USB port 5,6,7,8,9,10 (Header)
USB11,USB12	USB port 11,12(USB type A)
PCI1,PCI2,PCI5	PCI slot
PCIE3	PCIE x4 slot
PCIE4,PCIE6	PCIE x16 slot
PCIE7	PCIE x1 slot
DIMMA0,DIMMA1, DIMMB0,DIMMB1	DDR3 slot
CPUFAN1	CPU FAN connector
SYSFAN1,SYSFAN2, SYSFAN3,SYSFAN4	System FAN connector
LAN1_USB12, LAN2_USB34	LAN1 / USB port 1, 2 stack connector LAN2 / USB port 3, 4 stack connector
LAN3_4	LAN 3,4 stack connector
VGA_COM1	VGA+COM connector
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
FP_SMB1	Front panel SMBus header
IPMI1	IPMI header
GPIO1	GPIO header
FPAUD1	Audio front panel header
LPT1	Parallel port
COM2	Serial port: RS-232
JFP1	Front panel header

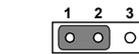
Jumper list

Label	Function
JCMOS1	CMOS clear
JMECLR1	ME clear
JME1	ME update
JWDT1	Watch dog selection
JGREEN1	Deep sleep Sx mode
JUSB_1,JUSB_2	USB/KBMS normal(2-3)/stand-by power selection(1-2)
CPUFAN_SEL1,SYSFAN_SEL1	FAN PWM(1-2)/DC mode selection(2-3)
PSON1	AT(1-2) / ATX(2-3)
JCFG1	PCI-E port(slot 6) assign to 1 x 16 link (Default) or 2 x 8 link for riser card use

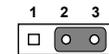
JCMOS1, JMECLR1: CMOS and ME clear function

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

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.

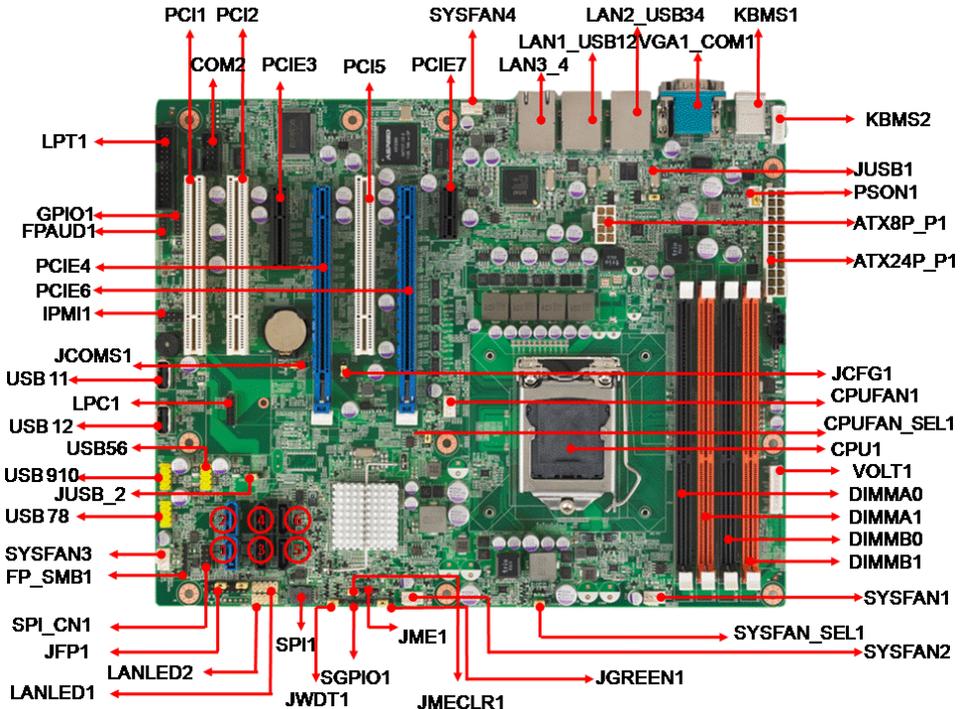
The computer is supplied with a battery-powered realtime clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.

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