ADVANTECH

SIMB-A21 Intel® H61 ATX Motherboard (LGA1155 socket for Intel® Second Generation Core™ i7/ Core™ i5/ Core™ i3 Processors) Startup Manual

Packing List

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

1. 1 x SIMB-A21 ATX Motherboard
2. 1 x CD ROM per carton, which contains Drivers
3. 1 x SATA cable kit (SATA/Power)
4. 1 x I/O Shield
5. 1 x Startup Manual per carton

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Note 1: 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).

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://support.advantech.com

This manual is for the SIMB-A21 Series.

Part No. 20060A2110   1st Edition
Print in China   July 2012

Specifications

System

- **CPU:** LGA1155 socket for Intel Sandy Bridge Processor, Intel Core i7-2600 3.4 GHz, Intel Core i5-2400 3.1 GHz, Intel Core i3-2120 3.3 GHz, Pentium G850 2.9 GHz, Celeron G540 2.5 GHz
- **FSB:** 1333 /1066 MHz
- **BIOS:** AMI 32 Mb SPI BIOS
- **System Chipset:** Intel H61
- **I/O Chipset:** Nuvoton NCT6776F
- **Memory:** Two 240-pin DIMM sockets support up to 8 GB Dual Channel DDR3 1333/1066 SDRAM
  * Based on OS limits, when using the memory over 4 GB; capacity under 32-bit OS, system will only recognize less than 3 GB. 64-bit OS will not have this limitation.
- **Watchdog Timer:** Reset: 1 sec. ~ 255 min. and 1 sec. or 1 min./step
- **H/W Status Monitor:** Monitoring temperatures, voltages, and cooling fan status. Auto throttling control when CPU overheat
- **Expansion Slots:** 1 x PCI Express x16, 1 x PCI Express x1, 4 x PCI (PCI Rev. 2.3 compliant)
- **DIO:** 8-bit
- **S3 / S4:** Yes
- **TPM:** 2 x10 Pin header
- **Wake up on LAN or Ring:** LAN (PME / RPL)
- **Smart Fan Control:** Yes

Display

- **Chipset:** Integrated HD Graphics 2000
- **Max. Resolution:** 2048 x 1536 bpp (@ 75Hz)
- **VGA:** Yes , Integrated Graphics
- **LVDS / DVI / HDMI:** Through ADD2 LVDS Card
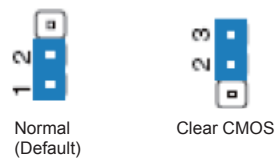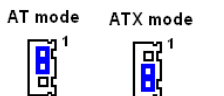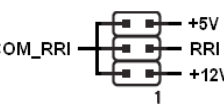- **Secondary VGA:** Yes, through ADD2 card
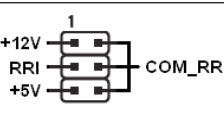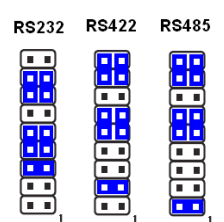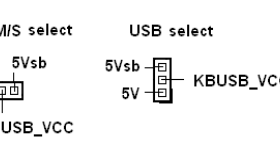
Audio

- **Audio Codec:** Realtek, ALC892, 5.1 HD Audio
- **Audio Interface:** Mic in, Line in, Line out

Ethernet

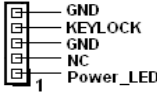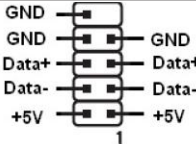- **LAN1:** RTL8111E Gigabit LAN
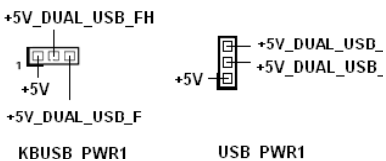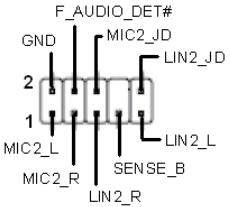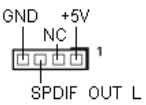- **LAN2:** RTL8111E Gigabit LAN

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 of the jumpers and connectors.
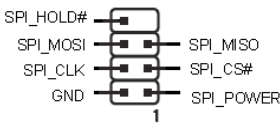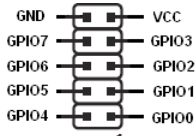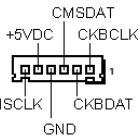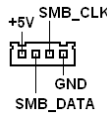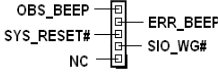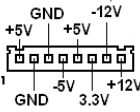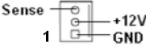
Jumpers		
Label	**Function**	**Note**
JCMOS1	Clear CMOS	Normal (Default) — Clear CMOS
SATA_PWR1	SATA_pin7 Voltage select	
PSCN1	AT/ATX Mode setting	AT mode — ATX mode
JCOMPWR_1	COM1 for Power select 5 V & 12 V	
JCOMPWR_2	COM2 for Power select 5 V & 12 V	
JSETCOM2	COM2 RS-232/422/485 Setting jumper	RS232 — RS422 — RS485
KBUSB_PWR1 USB_PWR1	K/B,M/S +5 V/+5 Vsb select USB +5 V/+5 Vsb select	

Jumpers and Connectors
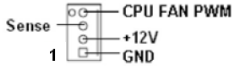
Connectors		
Label	**Function**	**Note**
JFP1+JFP2	Front Panel Header	 | Pin	Signal	Pin	Signal	Pin	Signal
---	---	---	---	---	---
12	SYS RST_ GND	11	SNMP_ SCL	10	SPK_3
9	SYS_RST#	8	SNMP_ SDA	7	SPK_4
6	PWRBTN_ GND	5	SATA_ LED#	4	SPK_2
3	PWRBTN_ IN	2	SATA_ LED	1	SPK_+5 V	
JFP3	KEYLOCK pin Header	
USB56 USB78 USB910	USB Header	
KBUSB_PWR1 USB_PWR1	+5 V/+5VSB switch jumper	
F_AUDIO	Front Panel Audio Header for Intel HD Audio	
SPDIF_OUT_L	SPDIF header	

Jumpers and Connectors

SPI_CN1	SPI Headers	

LANLED1	LAN LED	

Pin	Signal	Pin	Signal
1	LAN1_ACT#	2	LAN2_ACT#
3	LAN_+VCC3	4	LAN_+VCC3
5	LAN1_SPEED1G	6	LAN2_SPEED1G
7	LAN1_SPEED100M	8	LAN2_SPEED100M
9	LAN_+VCC3	10	Key (no pin)

GPIO1	GPIO	

KBMS2	Keyboard/ Mouse Header	

SMBUS1	SM BUS	

JWDT1+JOBS1	Watch/ HW monitor alarm header	

VOLT1	Voltage Display header	

SYSFAN1 SYSFAN2	System FAN Header	

Jumpers and Connectors

CPUFAN1	CPU FAN Header	

Sense — CPU FAN PWM — +12V — GND (1)

		Pin	Signal	Pin	Signal
COM3456	Box header for COM3 ~ COM6	1	DDCD3#	2	DDSR3#
		3	RRXD3	4	RRTS3#
		5	TTXD3	6	CCTS3#
		7	DDTR3#	8	RRI3#
		9	GND	10	GND
		11	DDCD4#	12	DDSR4#
		13	RRXD4	14	RRTS4#
		15	TTXD4	16	CCTS4#
		17	DDTR4#	18	RRI4#
		19	GND	20	GND
		21	DDCD5#	22	DDSR5#
		23	RRXD5	24	RRTS5#
		25	TTXD5	26	CCTS5#
		27	DDTR5#	28	RRI5#
		29	GND	30	GND
		31	DDCD6#	32	DDSR6#
		33	RRXD6	34	RRTS6#
		35	TTXD6	36	CCTS6#
		37	DDTR6#	38	RRI6#
		39	GND	40	GND

Disclaimer and Notice

The manufacturer reserves the right to make changes, without notice, to any product, including circuits and/or software described or contained in this manual in order to improve design and/or performance. The manufacturer assumes no responsibility or liability for the use of the described product(s), conveys no license or title under any patent, copyright, or masks work rights to these products, and makes no representations or warranties that these products are free from patent, copyright, or mask work right infringement, unless otherwise specified. For the detail product information, please refer to user's manual.

Safety Declaration

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 Diagram