

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

Print in China

1st Edition

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

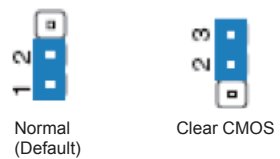

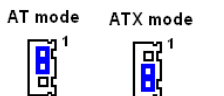
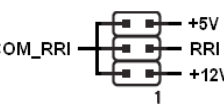
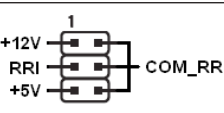
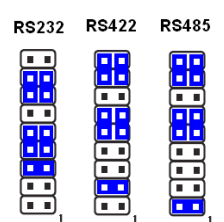
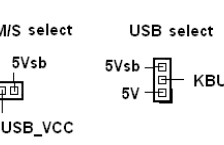
- **Audio Codec:** Realtek, ALC892, 5.1 HD Audio
- **Audio Interface:** Mic in, Line in, Line out

Ethernet

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


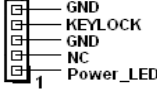
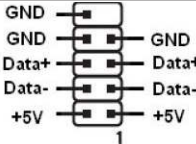
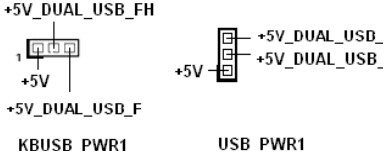
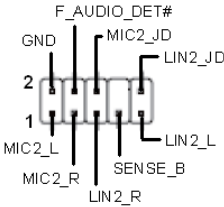
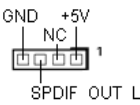
Jumpers and Connectors

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	 <p>Normal (Default) Clear CMOS</p>
SATA_PWR1	SATA_pin7 Voltage select	 <p>GND +5V SATA_pin7</p>
PSCN1	AT/ATX Mode setting	 <p>AT mode ATX mode</p>
JCOMPWR_1	COM1 for Power select 5 V & 12 V	 <p>COM_RRI +5V RRI +12V</p>
JCOMPWR_2	COM2 for Power select 5 V & 12 V	 <p>+12V RRI +5V COM_RRI</p>
JSETCOM2	COM2 RS-232/422/485 Setting jumper	 <p>RS232 RS422 RS485</p>
KBUSB_PWR1 USB_PWR1	K/B,M/S +5 V/+5 Vsb select USB +5 V/+5 Vsb select	 <p>K/B,M/S select USB select</p> <p>5V 5Vsb 5Vsb 5V KBUSB_VCC</p> <p>KBUSB_VCC</p>

Jumpers and Connectors

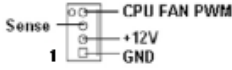
Connectors

Label	Function	Note																														
JFP1+JFP2	Front Panel Header	 <table border="1"> <thead> <tr> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>SYS_RST_GND</td> <td>11</td> <td>SNMP_SCL</td> <td>10</td> <td>SPK_3</td> </tr> <tr> <td>9</td> <td>SYS_RST#</td> <td>8</td> <td>SNMP_SDA</td> <td>7</td> <td>SPK_4</td> </tr> <tr> <td>6</td> <td>PWRBTN_GND</td> <td>5</td> <td>SATA_LED#</td> <td>4</td> <td>SPK_2</td> </tr> <tr> <td>3</td> <td>PWRBTN_IN</td> <td>2</td> <td>SATA_LED</td> <td>1</td> <td>SPK_+5V</td> </tr> </tbody> </table>	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_+5V
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_+5V																											
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	<table border="1"> <thead> <tr> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>LAN1_ACT#</td> <td>2</td> <td>LAN2_ACT#</td> </tr> <tr> <td>3</td> <td>LAN+_VCC3</td> <td>4</td> <td>LAN+_VCC3</td> </tr> <tr> <td>5</td> <td>LAN1_SPEED1G</td> <td>6</td> <td>LAN2_SPEED1G</td> </tr> <tr> <td>7</td> <td>LAN1_SPEED100M</td> <td>8</td> <td>LAN2_SPEED100M</td> </tr> <tr> <td>9</td> <td>LAN+_VCC3</td> <td>10</td> <td>Key (no pin)</td> </tr> </tbody> </table>	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)
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																																																																																					
COM3456	Box header for COM3 ~ COM6	<table border="1"> <thead> <tr> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr><td>1</td><td>DDCD3#</td><td>2</td><td>DDSR3#</td></tr> <tr><td>3</td><td>RRXD3</td><td>4</td><td>RRTS3#</td></tr> <tr><td>5</td><td>TTXD3</td><td>6</td><td>CCTS3#</td></tr> <tr><td>7</td><td>DDTR3#</td><td>8</td><td>RRI3#</td></tr> <tr><td>9</td><td>GND</td><td>10</td><td>GND</td></tr> <tr><td>11</td><td>DDCD4#</td><td>12</td><td>DDSR4#</td></tr> <tr><td>13</td><td>RRXD4</td><td>14</td><td>RRTS4#</td></tr> <tr><td>15</td><td>TTXD4</td><td>16</td><td>CCTS4#</td></tr> <tr><td>17</td><td>DDTR4#</td><td>18</td><td>RRI4#</td></tr> <tr><td>19</td><td>GND</td><td>20</td><td>GND</td></tr> <tr><td>21</td><td>DDCD5#</td><td>22</td><td>DDSR5#</td></tr> <tr><td>23</td><td>RRXD5</td><td>24</td><td>RRTS5#</td></tr> <tr><td>25</td><td>TTXD5</td><td>26</td><td>CCTS5#</td></tr> <tr><td>27</td><td>DDTR5#</td><td>28</td><td>RRI5#</td></tr> <tr><td>29</td><td>GND</td><td>30</td><td>GND</td></tr> <tr><td>31</td><td>DDCD6#</td><td>32</td><td>DDSR6#</td></tr> <tr><td>33</td><td>RRXD6</td><td>34</td><td>RRTS6#</td></tr> <tr><td>35</td><td>TTXD6</td><td>36</td><td>CCTS6#</td></tr> <tr><td>37</td><td>DDTR6#</td><td>38</td><td>RRI6#</td></tr> <tr><td>39</td><td>GND</td><td>40</td><td>GND</td></tr> </tbody> </table>	Pin	Signal	Pin	Signal	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
Pin	Signal	Pin	Signal																																																																																			
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

