

SIMB-M21**Intel® HM65 with Core™ i7/ i5/ i3/ Celeron
Mini-ITX Motherboard
Startup Manual****Packing List**

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

- 1 x SIMB-M21 Mini ITX Main board
- 1 x CD ROM per carton, which contains the following:
 - User's Manual in PDF file
 - Drivers
- 1 x SATA cable kit (SATA/Power)
- 1 x I/O Shield
- 1 x Startup Manual per carton

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

Note1:

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://www.advantech.com/support>

This manual is for the SIMB-M21 series Rev. A1.

Part No. 20060M2110
Printed in China

1st Edition
August 2011

Specifications**System**

- **CPU:** Intel rPGA988 Socket (Socket G2) supports Intel Core i7/ i5/ i3/ Celeron Mobile CPU
- **BIOS:** AMI 64Mb SPI
- **System Chipset:** Intel® HM65
- **I/O Chipset:** Nuvoton NCT6776F
- **Memory:** Two 204-pin SODIMM support up to 16GB dual channel DDR3 1333/ 1066, up to 16GB
- **Watchdog Timer: Reset:** 1 to 255 sec/min per step
- **H/W Status Monitor:** Monitoring temperature, voltage and cooling fan status. Auto throttling control when CPU overheats
- **Expansion Slots:** 1 PCI-E x 16 Gen. 2, 1 Mini PCI-E x 1, 1 CFast Card Connector
- **Power State:** S1, S3, S4, S5
- **Wake up on LAN or Ring:** LAN (WOL) and Ring (WO)
- **Smart Fan Control:** Yes
- **Smart Fan Control:** Supports 3 modes (Silent/Optimal/Performance)

Display

- **Chipset:** Intel® GMA HD 2000/ 3000 supports DirectX 10.1, OpenGL 3.0
- **Display Memory:** Shared Memory, up to 1.7GB
- **Dual Display:** VGA + LVDS, VGA + DisplayPort, VGA + HDMI, DisplayPort + HDMI, LVDS + HDMI, LVDS + DisplayPort
- **VGA:** Onboard, supports max resolution 2048 x 1536
- **HDMI:** Onboard HDMI 1.3, supports max resolution 1920 x 1080
- **DisplayPort:** Onboard, supports max resolution 1920 x 1080
- **LVDS:** Onboard dual channel 24-bit LVDS supports max resolution 1600 x 1200
- **LVDS Backlight:** Yes, through internal LVDS Backlight Connector

Audio

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

TPM




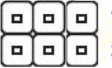
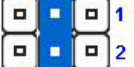








- **TPM:** Infineon SLB9635 supports TPM 1.2

Ethernet




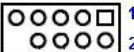
- **LAN1:** Intel 82579LM
- **LAN2:** Intel 82583V

Connectors and Jumpers



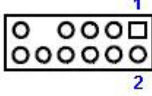
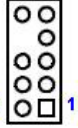
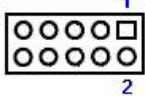

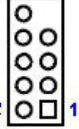
Jumpers

Label	Function	Note
JCMOS1	Clear CMOS 1 	Normal *  Clear CMOS 
JCOMPWR3 JCOMPWR4 JCOMPWR5	COM3 COM4 COM5 RI/+5V/+12V Select  1 2	RI +5V +12V  1  1  1 2 2 2
JLVDS_BKL2	BL controller from SIO 1  1. SIO_LVDS0_VBR 2. GND 3. NC	ENABLED  1 DISABLED  1
PSON1	1  1. ATSEL IN 2. PWRBT 3. ATXSEL IN	AT MODE  1 ATX MODE  1

Connectors

Label	Function	Note
CPU_FAN	CPU Fan Connector	 1. GND 2. CPUFAN1_VCC (PWM) 3. CPUFAN1_IO_R
SYS_FAN1	System Fan Connector	1  1. GND 2. SYSFAN1_VCC (PWM) 3. SYSFAN1_IO_R
COM3 COM4 COM5	Serial Port Connector	 1 2 9. GND 7. DTR3 5. TX3 3. RX3 1. DCD3 8. COM3P9SEL 6. CTS3 4. RTC3 2. DSR3
F_PANEL	Intel Front Panel connector	 1 2 9. NC 7. SRST# 5. GND 3. SATA_LED# 1. HDD_LED+ 8. GND 6. PANSWIN# 4. GND 2. SUPLED

Connectors and Jumpers

JLVDS	24-bit LVDS Connector	 <table border="0"> <tr> <td>1. VDD(+3.3V)</td> <td>11. LVDS_A1-</td> <td>21. LVDS_B1+</td> <td>31. GND</td> </tr> <tr> <td>2. VDD(+5V)</td> <td>12. LVDS_A0-</td> <td>22. LVDS_B0+</td> <td>32. GND</td> </tr> <tr> <td>3. VDD(+3.3V)</td> <td>13. GND</td> <td>23. LVDS_B1-</td> <td>33. LVDS_B_CK+</td> </tr> <tr> <td>4. VDD(+5V)</td> <td>14. GND</td> <td>24. LVDS_B0-</td> <td>34. LVDS_A_CK+</td> </tr> <tr> <td>5. I2C_CLK</td> <td>15. LVDS_A3+</td> <td>25. GND</td> <td>35. LVDS_B_CK-</td> </tr> <tr> <td>6. I2C_DATA</td> <td>16. LVDS_A2+</td> <td>26. GND</td> <td>36. LVDS_A_CK-</td> </tr> <tr> <td>7. GND</td> <td>17. LVDS_A3-</td> <td>27. LVDS_B3+</td> <td>37. GND</td> </tr> <tr> <td>8. GND</td> <td>18. LVDS_A2-</td> <td>28. LVDS_B2+</td> <td>38. GND</td> </tr> <tr> <td>9. LVDS_A1+</td> <td>19. GND</td> <td>29. LVDS_B3-</td> <td>39. VDD(+12V)</td> </tr> <tr> <td>10. LVDS_A0+</td> <td>20. GND</td> <td>30. LVDS_B2-</td> <td>40. VDD(+12V)</td> </tr> </table>	1. VDD(+3.3V)	11. LVDS_A1-	21. LVDS_B1+	31. GND	2. VDD(+5V)	12. LVDS_A0-	22. LVDS_B0+	32. GND	3. VDD(+3.3V)	13. GND	23. LVDS_B1-	33. LVDS_B_CK+	4. VDD(+5V)	14. GND	24. LVDS_B0-	34. LVDS_A_CK+	5. I2C_CLK	15. LVDS_A3+	25. GND	35. LVDS_B_CK-	6. I2C_DATA	16. LVDS_A2+	26. GND	36. LVDS_A_CK-	7. GND	17. LVDS_A3-	27. LVDS_B3+	37. GND	8. GND	18. LVDS_A2-	28. LVDS_B2+	38. GND	9. LVDS_A1+	19. GND	29. LVDS_B3-	39. VDD(+12V)	10. LVDS_A0+	20. GND	30. LVDS_B2-	40. VDD(+12V)
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FPAUD1	Audio Mic.-In & Line-Out Connector	 <table border="0"> <tr> <td>10. SENSE2_RTN</td> <td>9. LIN2_L</td> </tr> <tr> <td>8. NC</td> <td>7. SENSE_B</td> </tr> <tr> <td>6. SENSE1_RTN</td> <td>5. LIN2_R</td> </tr> <tr> <td>4. PRESENSE</td> <td>3. MIC2_R</td> </tr> <tr> <td>2. GND</td> <td>1. MIC2_L</td> </tr> </table>	10. SENSE2_RTN	9. LIN2_L	8. NC	7. SENSE_B	6. SENSE1_RTN	5. LIN2_R	4. PRESENSE	3. MIC2_R	2. GND	1. MIC2_L																														
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USB45 USB89 USB1011	USB 2.0 Connector	 <table border="0"> <tr> <td>9. NC</td> <td>7. GND</td> </tr> <tr> <td>8. GND</td> <td>5. USB +</td> </tr> <tr> <td>6. USB +</td> <td>3. USB -</td> </tr> <tr> <td>4. USB -</td> <td>1. USB+5V</td> </tr> <tr> <td>2. USB+5V</td> <td></td> </tr> </table>	9. NC	7. GND	8. GND	5. USB +	6. USB +	3. USB -	4. USB -	1. USB+5V	2. USB+5V																															
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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

