

**Full-size PICMG 1.0 with Intel® G41 supports socket
LGA775 Intel® Core™ 2 Quad CPU card with VGA, Dual PCIe
GbE, SATAII, COM, USB 2.0 and Audio, RoHS**

WSB-G41A

Quick Installation Guide

Version 1.1

Jul. 04, 2011

Package Contents

WSB-G41A package includes the following items:

- 1 x WSB-G41A Single Board Computer
- 1 x Mini Jumper Pack
- 4 x SATA Cable
- 1 x Dual RS-232 Cable
- 1 x USB Cable
- 1 x IO-KIT-001-R20 (DVI Model Only)
- 1 x Utility CD
- 1 x QIG (Quick Installation Guide)



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Specifications

- CPU: LGA775 45nm Intel®Core™ 2 Extreme/Quad/Duo, Celeron processors with 1333/1066/800MHz FSB supports
- System Chipset: Intel® G41+ICH7
- BIOS: AMI BIOS
- System Memory: 2 x 240-pin dual-channel DDR3 800/1066MHz SDRAM up to 4GB
- Ethernet: Dual PCIe Intel® 82583V GbE Controller
- I/O Interface:
 - 2 x RS-232
 - 7 x USB2.0 (1 on bracket, 6 on board by 2x4-pin pin header)
 - 4 x SATA II
 - 1 x IDE
 - 1 x FDD
 - 1 x LPT
 - 1 x 6-pin pin header for PS/2 KB/MS
 - 1 x PS/2 KB/MS
- Super I/O: ITE IT8718F
- Digital I/O: 8-bit Digital I/O, 4-bit input / 4-bit output
- Infrared Interface: 1 x 5-pin pin header
- Graphic:
 - Intel® Graphics Media Accelerator X4500 (Intel®GMA X4500)
- Display:
 - VGA Integrated in Intel® G41
 - DVI by Silicon Image SIL1362 (WSB-G41A-DVI-R11 only)
- Audio:
 - 10-pin on board header connects to the IEI Audio kit (AC-KIT-888HD-R10 / AC-KIT08R-R10)
- Watchdog timer: Software programmable 1-255 sec. by Super I/O:ITE IT8718F
- Power supply: ATX Power Support
- Power Consumption:
 - 5V@7.13, 12V@0.27A, 5V@0.11A, Vcore_12V@3.02A
 - (Running 3D Mark20001SE with Intel®Core™ 2 Duo E8500 3.16GHz 1333MHz FSB CPU with 2*2GB DDR3 SDRAM)

- Operation Temperature: 0 ~ 60°C(32°F ~ 140°F)
- Operation Humidity: 5% ~ 95%, non-condensing
- Dimensions: 338mm X 122mm
- Weight: 1.1Kg

Ordering Information

WSB-G41A-R11:

Full-size PICMG 1.0 with Intel® G41 supports socket LGA775 Intel® Core™2 Quad CPU card with VGA, Dual PCIe GbE, SATAII, COM, USB 2.0 and Audio, RoHS

WSB-G41A-DVI-R11:

Full-size PICMG 1.0 with Intel® G41 supports socket LGA775 Intel® Core™2 Quad CPU card with VGA / DVI-D, Dual PCIe GbE, SATAII, COM, USB 2.0 and Audio, RoHS

AC-KIT-888HD-R10:

Realtek ALC888 7.1 Channel HD Audio peripheral board,RoHS

AC-KIT08R-R10:

5.1Channel AC' 97 audio kit with Realtek ALC655

CF-775A-RS:

High performance CPU cooler (92mm x 92mm x 73mm , 130W)

CF-520-RS-R11:

High performance CPU cooler (115mm x 115mm x 67mm , 115W)

CB-USB14-RS: 4 ports USB cable

32102-000100-100-RS/32102-000100-200-RS/32102-000100-300-RS:

SATA power cable

19800-000049-RS: LPT cable

32200-000052-RS: ATA66 IDE flat cable

Jumpers setting and Connectors

| LABEL | FUNCTION |
|----------------------------------|--|
| J_CMOS1 | Clear CMOS setting Jumper |
| JLAN_PWR1 | LAN1 & LAN2 WOL control |
| JAUTO1 | AT & ATX Boot control |
| VGA1 | External VGA 15-pin Female Connector |
| USB_C1 | External USB Port Connectors |
| LAN1、LAN2 | External RJ45 LAN Connectors |
| KB1/MS1 | Internal PS/2 KEYBOARD/MOUSE Connector |
| COM1 COM2 | Internal Serial Port Connectors |
| USB1 | Internal USB Connector |
| J_AUDIO1 | External Audio Module Connector |
| SATA1 SATA2 SATA3 SATA4 | Serial ATA Connectors |
| IR1 | Infrared Interface Connector |
| PIDE | Internal IDE Connector |
| FDD1 | Internal FDD Connector |
| LPT1 | Internal LPT Connector |
| DVI1 | Internal DVI Connector (WSB-G41A-DVI-R11 only) |
| CPU_FAN1 | CPU Fan Connector |
| DIO1 | Digital Input / Output Connector |
| F_PANEL1 | PWR、RST Buttons、Speaker and Indicators |
| CPU12V1 | ATX-12V CPU Power Input Connector |

| J_CMOS1 : Clear CMOS setting Jumper | |
|--|--------------------|
| J_CMOS1 | DESCRIPTION |
| 1-2 (Default) | Normal |
| 2-3 | Clear CMOS Data |

| JLAN_PWR1: LAN1 & LAN2 WOL control | |
|---|---|
| JLAN_PWR1 | DESCRIPTION |
| Short 1-3 | LAN1 WOL Enabled |
| Short 3-5 (Default)* | LAN1 WOL Disabled (Normal Operation) |
| Short 2-4 | LAN2 WOL Enabled (Normal Operation) |
| Short 4-6 | LAN2 WOL Disabled |

| JAUTO1: AT & ATX Boot control | |
|--|--------------------------------|
| JAUTO1 | DESCRIPTION |
| Short (Default)* | ATX Mode (Normal Operation) |
| Open | AT Mode |

| VGA1 : 15-pin Female Connector | | | |
|---------------------------------------|--------------------|----------------|--------------------|
| PIN NO. | DESCRIPTION | PIN NO. | DESCRIPTION |
| 1 | RED | 2 | GREEN |
| 3 | BLUE | 4 | NC |
| 5 | GND | 6 | GND |
| 7 | GND | 8 | GND |
| 9 | VCC | 10 | GND |
| 11 | NC | 12 | DDCDAT |
| 13 | HSYNC | 14 | VSYNC |
| 15 | DDCCLK | | |

| USB_C1: USB Connector | |
|------------------------------|--------------------|
| PIN NO. | DESCRIPTION |
| 1 | VCC |
| 2 | DATA- |
| 3 | DATA+ |
| 4 | GROUND |

| USB1: Internal USB Connector | | | |
|-------------------------------------|--------------------|------------|--------------------|
| PIN | DESCRIPTION | PIN | DESCRIPTION |
| 1 | VCC (+5V) | 2 | GND |
| 3 | DATA- | 4 | DATA+ |
| 5 | DATA+ | 6 | DATA- |
| 7 | GND | 8 | VCC (+5V) |

| LAN1, LAN2: RJ45 LAN Connector | | | |
|---------------------------------------|--------------------|----------------|--------------------|
| PIN NO. | DESCRIPTION | PIN NO. | DESCRIPTION |
| 1 | MDIA3- | 5 | MDIA1+ |
| 2 | MDIA3+ | 6 | MDIA2+- |
| 3. | MDIA2- | 7 | MDIA0- |
| 4. | MDIA1- | 8 | MDIA0+ |

| MS/KB1: Internal 6-pin Keyboard Connector | |
|--|--------------------|
| PIN NO. | DESCRIPTION |
| 1 | VCC(+5V) |
| 2 | Mouse Data |
| 3 | Mouse Clock |
| 4 | Keyboard Data |
| 5 | Keyboard Clock |
| 6 | Ground |

| COM1,COM2: Internal Serial Port Connector | | | |
|--|--------------------|------------|--------------------|
| PIN | DESCRIPTION | PIN | DESCRIPTION |
| 1 | DCD# | 2 | DSR# |
| 3 | RXD | 4 | RTS# |
| 5 | TXD | 6 | CTS# |
| 7 | DTR# | 8 | RI# |
| 9 | GND | 10 | NC |

| J_AUDIO1 : External Audio Module Connector | | | |
|---|--------------------|------------|--------------------|
| PIN | DESCRIPTION | PIN | DESCRIPTION |
| 1 | ACZ_SYNC | 2 | ACZ_BITCLK |
| 3 | ACZ_SDOUT | 4 | ACZ_PCBEEP |
| 5 | ACZ_SDIN | 6 | ACZ_RST# |
| 7 | ACZ_VCC(+5V) | 8 | ACZ_GND |
| 9 | ACZ_12V | 10 | ACZ_GND |

| SATA1~SATA4 : Serial ATA Connector | | | |
|---|--------------------|----------------|--------------------|
| PIN NO. | DESCRIPTION | PIN NO. | DESCRIPTION |
| 1 | GND | 5 | RX- |
| 2 | TX+ | 6 | RX+ |
| 3 | TX- | 7 | GND |
| 4 | GND | 8 | N/C |

| CPU_FAN1 : CPU Fan Connector | |
|---|--------------------|
| PIN NO. | DESCRIPTION |
| 1 | Ground |
| 2 | +12V |
| 3 | Rotation Signal |
| 4 | Control |

| IR1: IrDA Connector | |
|----------------------------|--------------------|
| PIN | DESCRIPTION |
| 1 | VCC (+5V) |
| 2 | NC |
| 3 | IR-RX |
| 4 | GND |
| 5 | IR-TX |

| PIDE1: IDE Interface Connector | | | |
|---------------------------------------|--------------------|----------------|--------------------|
| PIN NO. | DESCRIPTION | PIN NO. | DESCRIPTION |
| 1 | RESET# | 2 | GND |
| 3 | DATA 7 | 4 | DATA 8 |
| 5 | DATA 6 | 6 | DATA 9 |
| 7 | DATA 5 | 8 | DATA 10 |
| 9 | DATA 4 | 10 | DATA 11 |
| 11 | DATA 3 | 12 | DATA 12 |
| 13 | DATA 2 | 14 | DATA 13 |
| 15 | DATA 1 | 16 | DATA 14 |
| 17 | DATA 0 | 18 | DATA 15 |
| 19 | GND | 20 | N/C |
| 21 | IDE DRQ | 22 | GND |
| 23 | IOW# | 24 | GND |
| 25 | IOR# | 26 | GND |
| 27 | IDE CHRDY | 28 | BALE – DEFAULT |
| 29 | IDE DACK | 30 | GND |
| 31 | INTERRUPT | 32 | N/C |
| 33 | SA1 | 34 | PDIAG# |
| 35 | SA0 | 36 | SA2 |
| 37 | HDC CS0# | 38 | HDC CS1# |
| 39 | HDD ACTIVE# | 40 | GND |

| DIO1 : Digital Input / Output Connector | | | |
|--|--------------------|------------|--------------------|
| PIN | DESCRIPTION | PIN | DESCRIPTION |
| 1 | Ground | 2 | VCC (+5V) |
| 3 | Output 3 | 4 | Output 2 |
| 5 | Output 1 | 6 | Output 0 |
| 7 | Input 3 | 8 | Input 2 |
| 9 | Input 1 | 10 | Input 0 |

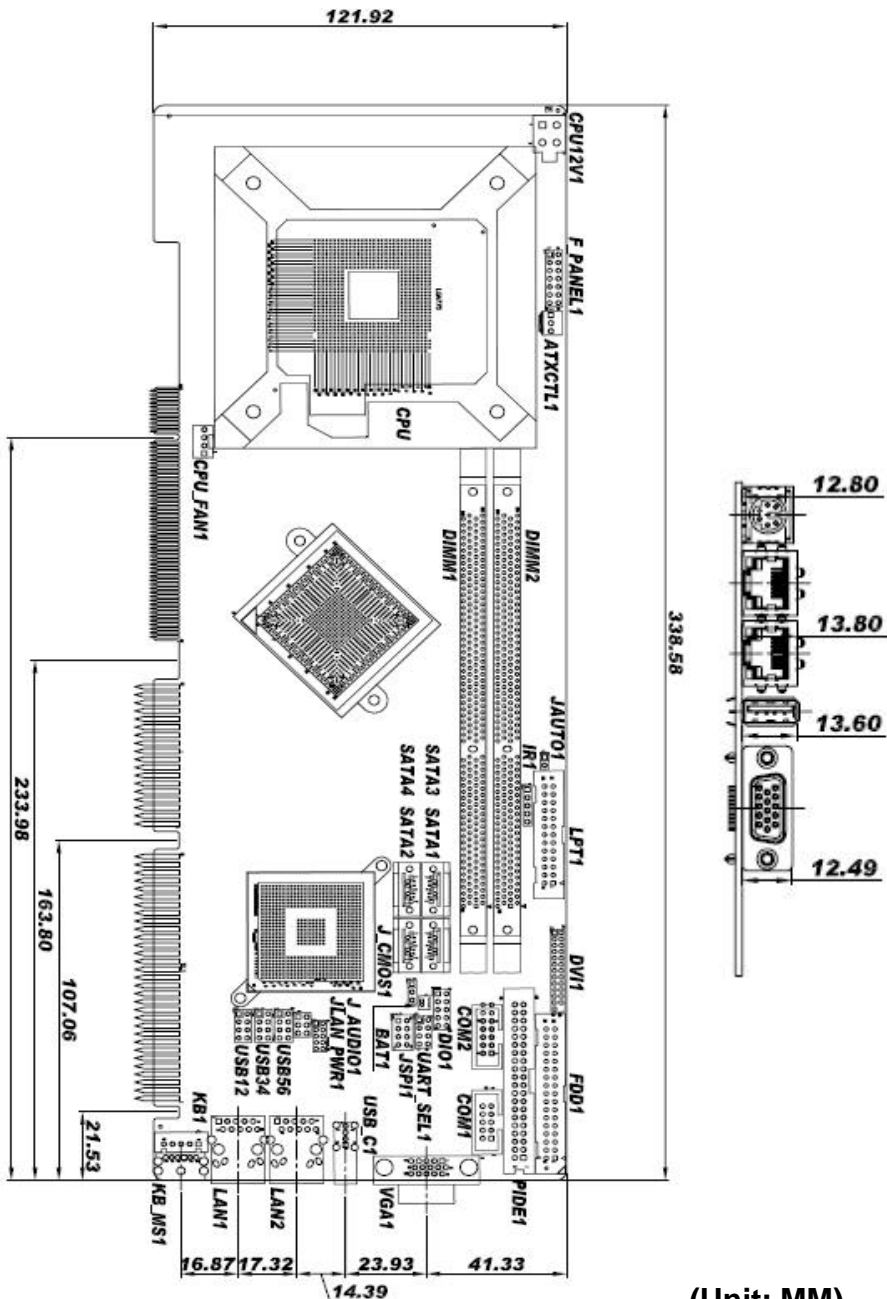
| FDD1: FDC Connector | | | |
|----------------------------|--------------------|----------------|--------------------|
| PIN NO. | DESCRIPTION | PIN NO. | DESCRIPTION |
| 1 | GND | 2 | REDUCE WRITE |
| 3 | GND | 4 | N/C |
| 5 | N/C | 6 | N/C |
| 7 | GND | 8 | INDEX# |
| 9 | GND | 10 | MOTOR ENABLE A# |
| 11 | GND | 12 | DRIVE SELECT B# |
| 13 | GND | 14 | DRIVE SELECT A# |
| 15 | GND | 16 | MOTOR ENABLE B# |
| 17 | GND | 18 | DIRECTION# |
| 19 | GND | 20 | STEP# |
| 21 | GND | 22 | WRITE DATA# |
| 23 | GND | 24 | WRITE GATE# |
| 25 | GND | 26 | TRACK 0# |
| 27 | GND | 28 | WRITE PROTECT# |
| 29 | GND | 30 | READ DATA# |
| 31 | GND | 32 | SIDE 1 SELECT# |
| 33 | GND | 34 | DISK CHANGE# |

| LPT1 : Parallel Port Connector | | | |
|---------------------------------------|--------------------|----------------|--------------------|
| PIN NO. | DESCRIPTION | PIN NO. | DESCRIPTION |
| 1 | STROBE# | 14 | AUTO FORM FEED # |
| 2 | DATA0 | 15 | ERROR# |
| 3 | DATA1 | 16 | INITIALIZE# |
| 4 | DATA2 | 17 | PRINTER SELECT LN# |
| 5 | DATA3 | 18 | GND |
| 6 | DATA4 | 19 | GND |
| 7 | DATA5 | 20 | GND |
| 8 | DATA6 | 21 | GND |
| 9 | DATA7 | 22 | GND |
| 10 | ACKNOWLEDGE# | 23 | GND |
| 11 | BUSY | 24 | GND |
| 12 | PAPER EMPTY | 25 | GND |
| 13 | PRINTER SELECT | | |

| F_PANEL1 : PWR, RST Buttons, Speaker and Indicators | | | | | |
|--|------------|--------------------|------------|--------------------|-----------------|
| Function | PIN | DESCRIPTION | PIN | DESCRIPTION | Function |
| Power LED | 1 | +5V | 2 | +5V | Speaker |
| | 3 | N/C | 4 | N/C | |
| | 5 | GROUND | 6 | N/C | |
| PWRBTN | 7 | PWRBTN+ | 8 | Speaker | RESET |
| | 9 | PWRBTN- | 10 | N/C | |
| HDDLED | 11 | +5V | 12 | Reset- | RESET |
| | 13 | HDLED- | 14 | GND | |

| CPU12V1: ATX-12V CPU Power Input connector | | | |
|---|--------------------|----------------|--------------------|
| PIN NO. | DESCRIPTION | PIN NO. | DESCRIPTION |
| 1 | GND | 2 | GND |
| 3 | +12V | 4 | +12V |

Board Layout: Jumper and Connector Locations



(Unit: MM)