MNIC8CI

Intel® D525 Processor Motherboards

User's Manual

Rev. 1001

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Documentation Classifications

In order to assist in the use of this product, GIGABYTE provides the following types of documentations:

- ■ For quick set-up of the product, read the Quick Installation Guide included with the product.
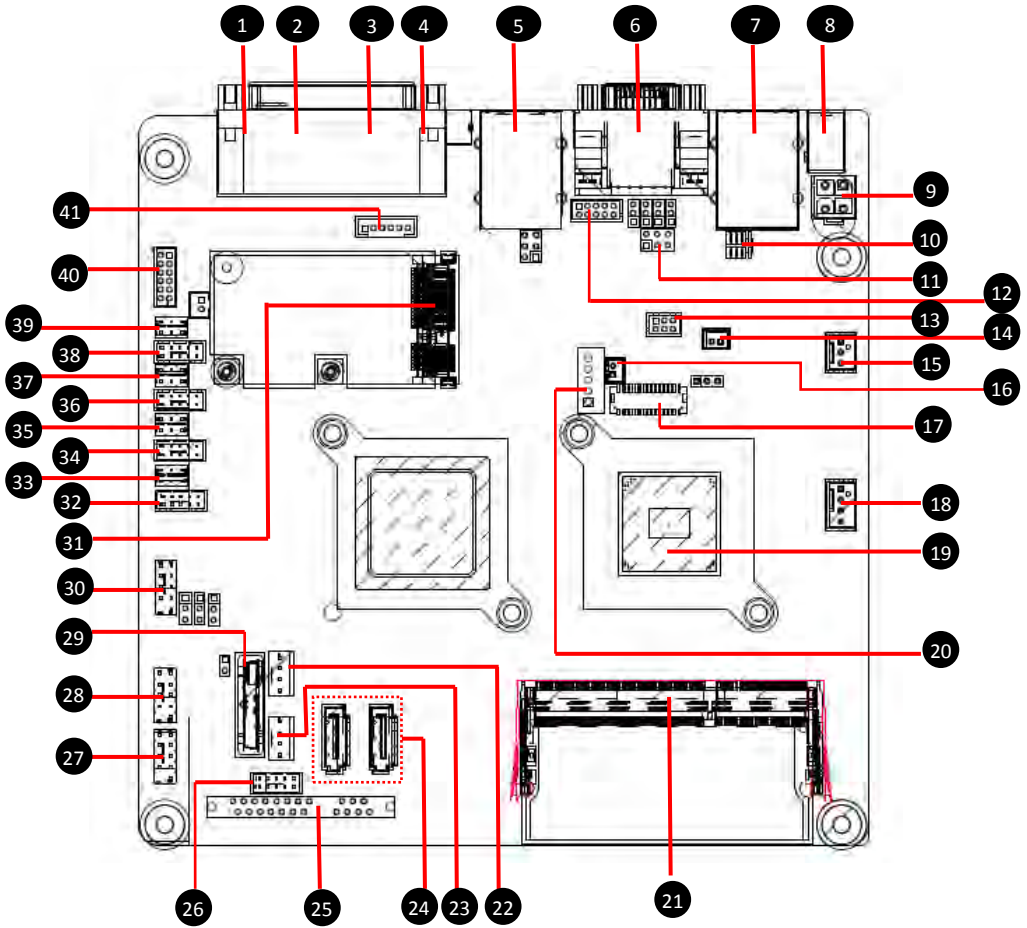- ■ For detailed product information, carefully read the User's Manual.

For product-related information, check on our website at:

http://www.gigabyte.com

Table of Contents

MNIC8CI Motherboard Layout

Item	Code	Description
1	AUDIO_JACK	Audio jack
2	LPT	Parallel port
3	RJ11	Cash drawer port
4	KB_MS1	PS/2 connector
5	USB_LAN1	USB ports and LAN port
6	VGA1/COM2	VGA port and Serial port
7	USB_LAN2	USB ports and LAN port
8	DC_IN	DC jack
9	DC_OUT	4 pin power connector
10	COM4	Serial cable connector
11	JCOM4	Serail port 5V,12V, RI select jumper
12	VGA2	VGA cable connector
13	JRS1	RS232,RS422,RS485 Select Connector
14	LCDPWR_CON	LCD power connector
15	SYS_FAN	System fan cable connector
16	BKLTEN_CON	Back light inverter jumper
17	LVDS	LVDS connectors
18	CPU_FAN	CPU fan cable connector
19	CPU	Processor
20	INV_BRIG1	Inverter with box header
21	SO-DIMM	DDR3 SO-DIMM slot
22	SATAPW2	SATA power connector
23	SATAPW1	SATA power connector
24	SATA1/2	SATA cable connectors
25	SATA3	SATA 7+15 pins cable connector
26	JFRONT	Front panel connecotor
27	F_USB3	Front USB cable connector
28	F_USB2	Front USB cable connector
29	BAT1	Battery socket
30	F_USB1	Front USB cable connector
31	MINI_CARD	Mini PCI Express slot
32	COM6	Serial cable connector
33	JCOM6	Power COM select jumper
34	COM3	Serial cable connector
35	JCOM3	Power COM select jumper
36	COM5	Serial cable connector
37	JCOM5	Power COM select jumper
38	COM1	Serial cable connector
39	JCOM1	Power COM select jumper
40	F_AUDIO	Front audio cable connector
41	KB_MS2	PS/2 cable connector

Chapter 1   Hardware Installation

1-1   Installation Precautions

The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Prior to installation, carefully read the user's manual and follow these procedures:

- Prior to installation, do not remove or break motherboard S/N (Serial Number) sticker or warranty sticker provided by your dealer. These stickers are required for warranty validation.
- Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.
- When connecting hardware components to the internal connectors on the motherboard, make sure they are connected tightly and securely.
- When handling the motherboard, avoid touching any metal leads or connectors.
- It is best to wear an electrostatic discharge (ESD) wrist strap when handling electronic components such as a motherboard, CPU or memory. If you do not have an ESD wrist strap, keep your hands dry and first touch a metal object to eliminate static electricity.
- Prior to installing the motherboard, please have it on top of an antistatic pad or within an electrostatic shielding container.
- Before unplugging the power supply cable from the motherboard, make sure the power supply has been turned off.
- Before turning on the power, make sure the power supply voltage has been set according to the local voltage standard.
- Before using the product, please verify that all cables and power connectors of your hardware components are connected.
- To prevent damage to the motherboard, do not allow screws to come in contact with the motherboard circuit or its components.
- Make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
- Do not place the computer system on an uneven surface.
- Do not place the computer system in a high-temperature environment.
- Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
- If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

1-2 Product Specifications

CPU	⑩	Supports single Intel® D525 processor
	⑩	Supports 1.8GHz
Chipset	⑩	Intel® ICH8M
Memory	⑩	1 x SO-DIMM slot support DDR3 800
	⑩	Support up 2GB
Audio	⑩	Realtek® ALC269 codec
	⑩	High Definition Audio
	⑩	2 channel
LAN	⑩	1 x Realtek® RTL 8111Ed supports 10/100/1000 Mbps
Expansion Slots	⑩	1 x mini PCI Express x1 slot
Onboard Graphics	⑩	Build in Intel® ICH8M chipset
Storage Interface	⑩	2 x SATA 3Gb/s connectors
	⑩	1 x 7 pin & 15 pin SATA connector
USB	⑩	Up to 10 USB 2.0/1.1 ports (4 on the back panel, 6 via the USB brackets connected to the internal USB headers)
Internal Connectors	⑩	1 x 4 pin ATX 12V power connector
	⑩	2 x SATA 3Gb/s connectors
	⑩	2 x SATA power connectors
	⑩	1 x 7 pin & 15 pin SATA connector
	⑩	1 x CPU fan header
	⑩	1 x System fan header
	⑩	4 x COM power select connector
	⑩	1 x front panel header
	⑩	1 x audio header
	⑩	3 x USB 2.0 headers
	⑩	1 x VGA header
	⑩	1 x LVDS connector
Back Panel Connector	⑩	1 x DC-in (12V) connector
	⑩	4 x USB 2.0 ports
	⑩	2 x RJ-45 port
	⑩	1 x VGA port
	⑩	1 x COM ports
	⑩	1 x Parallel port
	⑩	1 x RJ-11 port
	⑩	1 x Audio jack
	⑩	1 x PS/2 connector

| Form Factor | ❿ Mini ITX Form Factor; 6.75 inch x 6.75 inch |

* GIGABYTE reserves the right to make any changes to the product specifications and product-related information without prior notice.

1-3 Installing the Memory

Read the following guidelines before you begin to install the memory:
- Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
  (Go to GIGABYTE's website for the latest supported memory speeds and memory modules.)
- Always turn off the computer and unplug the power cord from the power outlet before installing the memory to prevent hardware damage.
- Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.

1-3-1 Installing a Memory

Before installing a memory module, make sure to turn off the computer and unplug the power cord from the power outlet to prevent damage to the memory module.
Be sure to install DDR3 DIMMs on this motherboard.

Installation Step:
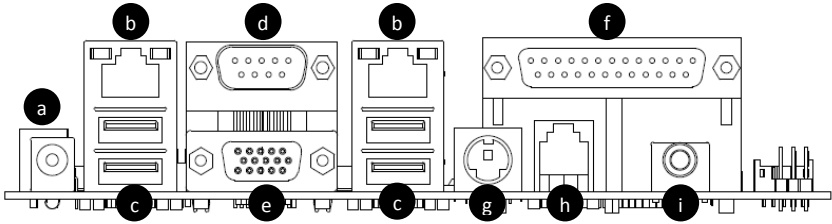Step 1. Align the memory with the DIMM module and insert the DIMM memory module into the DIM slot. Please note that memory module has a foolproof insertion design. A memory module can be installed In only one direction.
Step 2. Push down the memory and seat it firmly.
Step 3. Reverse the installation steps when you wish to remove the DIMM module.
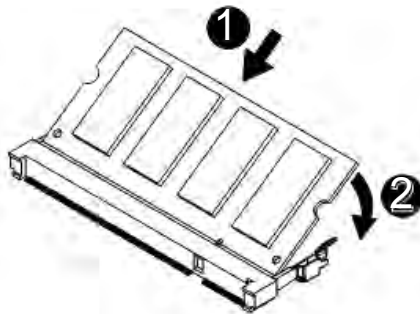
1-4 Back Panel Connectors

(a). DC In Port
Connect the DC power to this port.

(b). RJ-45 LAN Port
The Gigabit Ethernet LAN port provides Internet connection at up to 1 Gbps data rate. The following describes the states of the LAN port LEDs.

(c). USB 2.0/1.1 Port
The USB port supports the USB 2.0/1.1 specification. Use this port for USB devices such as a USB keyboard/mouse, USB printer, USB flash drive and etc.

(d). Serial Port
Connects to serial-based mouse or data processing devices.

(e). Video Port
The video in port allows connect to video in, which can also apply to video loop thru function.

(f). Parallel Port
The parallel port allows connection of a printer, scanner and other peripheral devices.

(g). PS/2 Port
Use this port to connect a PS/2 mouse or a PS/2 keyboard.

(h). RJ-11 Port
The RJ-11 (Cash Drawer) port is a physical connector interface most often used for telephone wire terminals.

(i). Line Out Jack (Front Speaker Out/Blue)
The default Line Out (Front Speaker Out) jack. Stereo speakers, earphone or front surround speakers can be connected to Line Out (Front Speaker Out) jack.

Connection/
Speed LED   Activity LED

LAN Port

Connection/Speed LED:

State	Description
Orange	1 Gbps data rate
Green	100 Mbps data rate
Off	10 Mbps data rate

Activity LED:

State	Description
Blinking	Data transmission or receiving is occurring
Off	No data transmission or receiving is occurring

• When removing the cable connected to a back panel connector, first remove the cable from your device and then remove it from the motherboard.
• When removing the cable, pull it straight out from the connector. Do not rock it side to side to prevent an electrical short inside the cable connector.

1-5 Internal Connectors
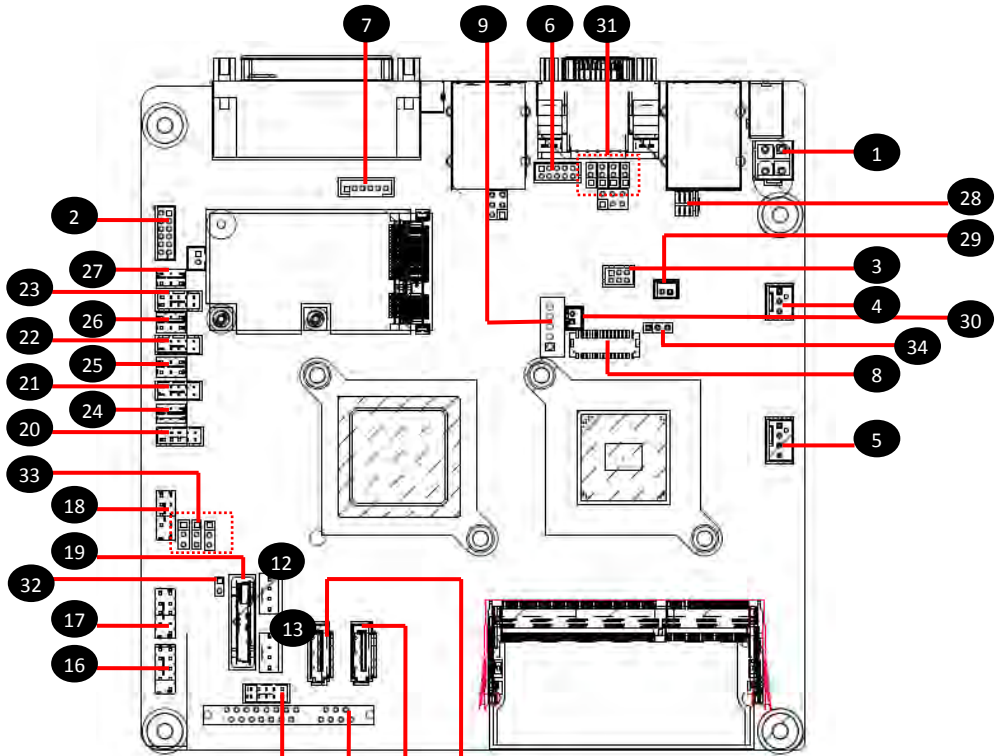
1)	DC_OUT	19)	BAT1
2)	F_AUDIO	20)	COM6
3)	JRS1	21)	COM3
4)	SYS_FAN	22)	COM5
5)	CPU_FAN	23)	COM1
6)	VGA2	24)	JCOM6
7)	KB_MS2	25)	JCOM3
8)	LVDS	26)	JCOM5
9)	INV_BRIG1	27)	JCOM1
10)	SATA2	28)	COM4
11)	SATA1	29)	LCDPWR_CON
12)	SATAPW_1	30)	BKLTEN_CON
13)	SATAPW_2	31)	JRS2/JRS3/JRS4/JRS5
14)	SATA3	32)	CLR_CMOS1
15)	JFRONT	33)	USB_PWR1/USB_PWR2/USB_PWR3
16)	F_USB3	34)	LVDS_PWR1
17)	F_USB2		
18)	F_USB1		

Read the following guidelines before connecting external devices:
• First make sure your devices are compliant with the connectors you wish to connect.
• Before installing the devices, be sure to turn off the devices and your computer. Unplug the power cord from the power outlet to prevent damage to the devices.
• After installing the device and before turning on the computer, make sure the device cable has been securely attached to the connector on the motherboard.

Hardware Installation

1) DC_OUT (2x2 12V Power Connector)

With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, first make sure the power supply is turned off and all devices are properly installed. The power connector possesses a foolproof design. Connect the power supply cable to the power connector in the correct orientation. The 12V power connector mainly supplies power to the CPU. If the 12V power connector is not connected, the computer will not start.

To meet expansion requirements, it is recommended that a power supply that can withstand high power consumption be used (500W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable or unbootable system.
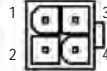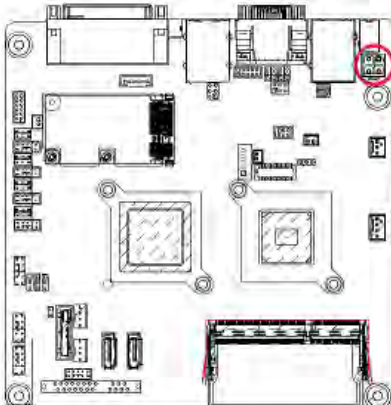
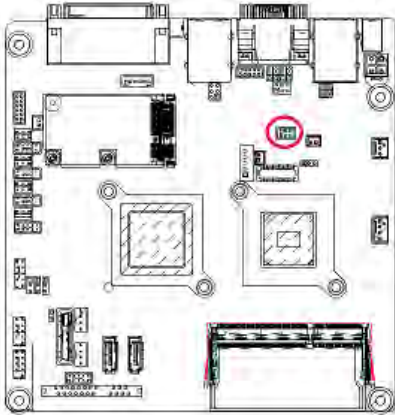| Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

2) F_AUDIO (Front Panel Audio Header)

The front panel audio header supports Intel High Definition audio (HD) and AC'97 audio. You may connect your chassis front panel audio module to this header. Make sure the wire assignments of the module connector match the pin assignments of the motherboard header. Incorrect connection between the module connector and the motherboard header will make the device unable to work or even damage it.
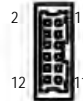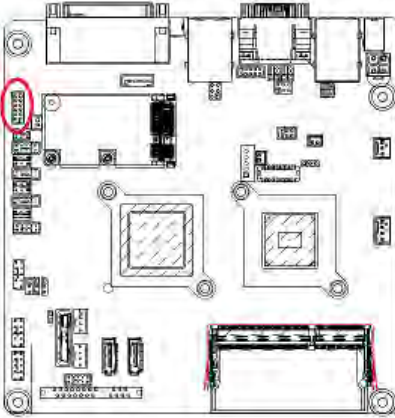
Pin No.	Definition
1	Amplifier Out_R+
2	MIC_L
3	Amplifier Out_R-
4	MIC_R
5	GND
6	Line In_R
7	Amplifier Out_L+
8	Line In_L
9	Amplifier Out_L-
10	Line In_JD
11	GND
12	External MIC JD

3) JRS1 (RS232/RS422/RS485 Select Header)

Pin No.	Definition
1	RS232
2	UART RXD Signal
3	RS422
4	UART RXD Signal
5	RS485
6	UART RXD Signal

Hardware Installation

4/5) SYS_FAN/CPU_FAN (System Fan/CPU Fan Headers)

The motherboard has a 4-pin CPU fan header (CPU_FAN), a 3-pin (SYS_FAN) system fan headers.

Most fan headers possess a foolproof insertion design. When connecting a fan cable, be sure to connect it in the correct orientation (the black connector wire is the ground wire). The motherboard supports CPU fan speed control, which requires the use of a CPU fan with fan speed control design. For optimum heat dissipation, it is recommended that a system fan be installed inside the chassis.
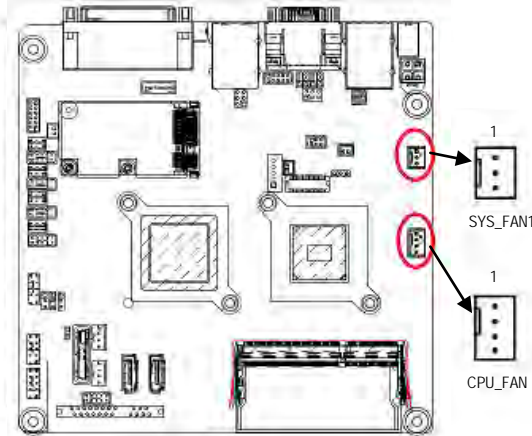
SYS_FAN (System Fan):

Pin No.	Definition
1	GND
2	+12V / Speed Control
3	Sense

SYS_FAN1

CPU_FAN (CPU Fan):

Pin No.	Definition
1	GND
2	+12V / Speed Control
3	Sense
4	Speed Control

CPU_FAN

- Be sure to connect fan cables to the fan headers to prevent your CPU and system from over-heating. Overheating may result in damage to the CPU or the system may hang.
- These fan headers are not configuration jumper blocks. Do not place a jumper cap on the headers.
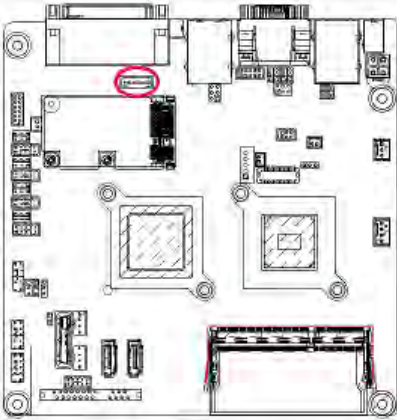
6) VGA2 (VGA Cable Header)
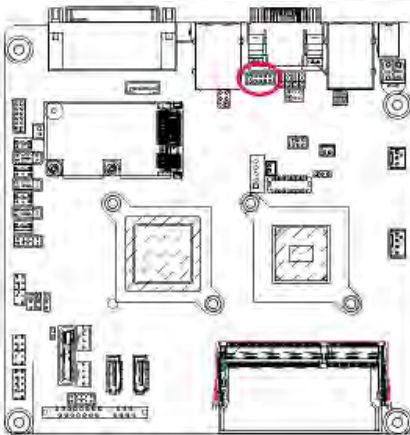
Pin No.	Definition
1	V-SYNC
2	H-SYNC
3	GND
4	GND
5	RED
6	GND
7	GREEN
8	DDC Clock
9	BLUE
10	DDC Data

7) KB_MS2 (PS/2 Cable Header)

Pin No.	Definition
1	GND
2	KDAT
3	F_KDAT
4	KCLK
5	F_KCLK
6	5V

1 [......] 6

8) LVDS (LVDS Headers)

LVDS stands for Low-voltage differential signaling, which uses high-speed analog circuit techniques to provide multi gigabit data transfers on copper interconnects and is a generic interface standard for high-speed data transmission.

2   30

1   29
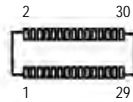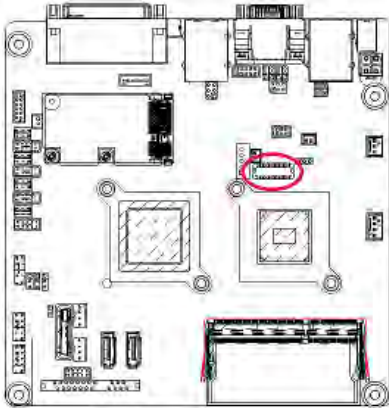
1	GND	16	GND
2	NC	17	Data1-
3	EDID Data	18	GND
4	GND	19	GND
5	EDID Clock	20	Backlight 5V
6	NC	21	LVDS Clock-
7	GND	22	Backlight 5V
8	NC	23	LVDS Clock+
9	Data0+	24	Backlight 5V
10	NC	25	GND
11	Data0-	26	GND
12	Backlight Enable	27	Data2-
13	GND	28	LVDS Power 3.3V
14	Backlight Controller	29	Data2+
15	Data1+	30	LVDS Power 3.3V

Hardware Installation

9) INV_BRIG1 (Inverter With Box Header)
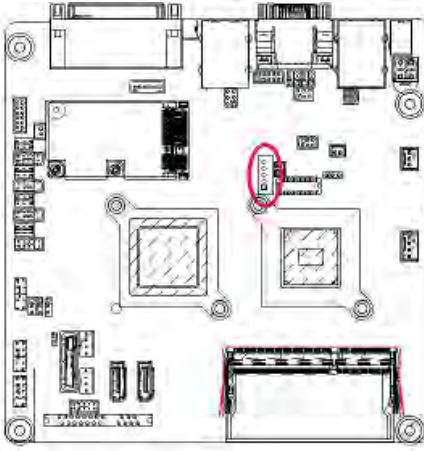
Pin No.	Definition
1	12V Power
2	12V Power
3	GND
4	Backlight Controller
5	Backlight Enable

10/11) SATA1/2 (SATA 3Gb/s Connectors)

The SATA connectors conform to SATA 3Gb/s standard and are compatible with SATA 1.5Gb/s standard. Each SATA connector supports a single SATA device.
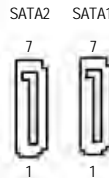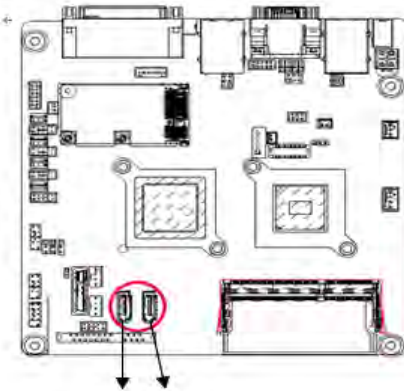
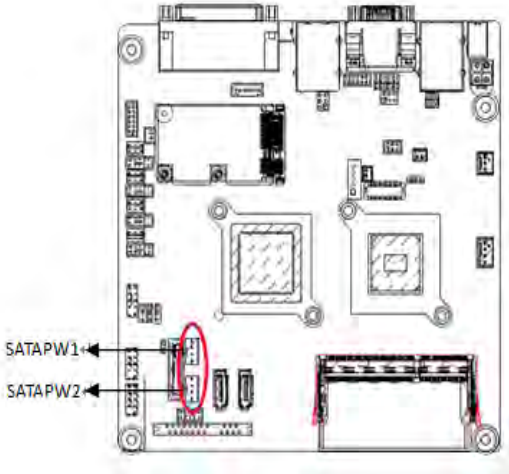| Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

• A RAID 0 or RAID 1 configuration requires at least two hard drives. If   more than two hard drives are configured, the total number of hard drives   must be an even number.
• A RAID 5 configuration requires at least three hard drives. (The total number of hard drives does not have to be an even number.)
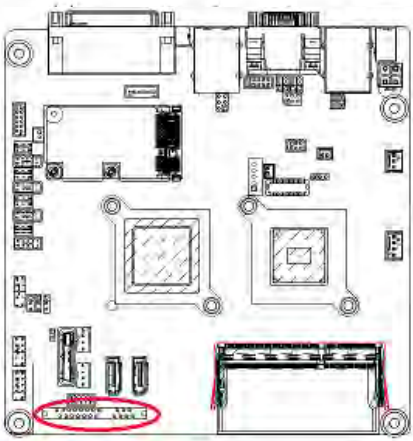• A RAID 10 configuration requires four hard drives.

(Note)   When a RAID configuration is built across the SATA 3Gb/s channels, the system performance of the RAID configuration may vary depends on the devices are connected.

## 12/13) SATAPW_1/SATAPW_2 (SATA HDD Power Headers)

Pin No.	Definition
1	+12V
2	GND
3	GND
4	5V

14) SATA3 (SATA 7+15 Pins Header)

15) JFRONT (Front Panel Header)

Connect the power switch, reset switch, speaker, chassis intrusion switch/sensor and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.
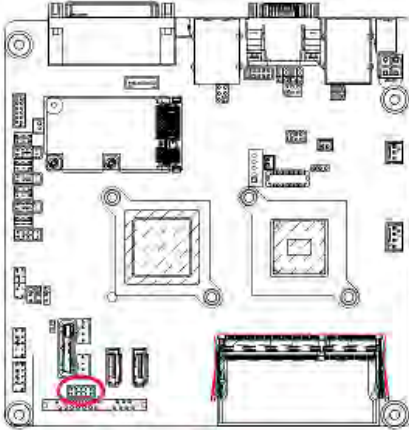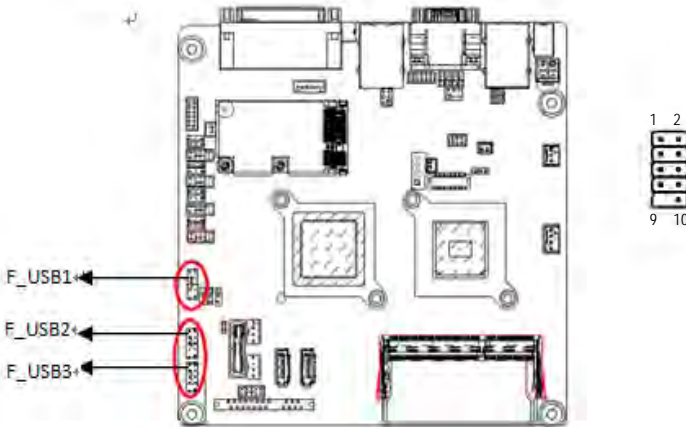

Pin No.	Pin Definition
1	Stand-by LED Signal
2	Power LED Signal
3	Power Switch
4	Ground
5	LAN Act LED Signal
6	LAN Act LED 5V
7	HDD LED
8	VCC 5V
9	Reset Button
10	Ground

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assignments are matched correctly.

16/17/18) F_USB3/F_USB2/F_USB1 (USB Headers)

The headers conform to USB 2.0/1.1 specification. Each USB header can provide two USB ports via an optional USB bracket. For purchasing the optional USB bracket, please contact the local dealer.

F_USB1/F_USB2

Pin No.	Definition
1	Power (5V)
2	Power (5V)
3	USB DX-
4	USB DY-
5	USB DX+
6	USB DY+
7	GND
8	GND
9	No Pin
10	NC

F_USB3

Pin No.	Definition
1	Power (5V)
2	Power (5V)
3	USB DX-
4	NC
5	USB DX+
6	NC
7	GND
8	GND
9	No Pin
10	NC

When the system is in S4/S5 mode, only the USB ports routed to the F_USB1 header can support the ON/OFF Charge function.

19) BAT1 (Battery)

The battery provides power to keep the values (such as BIOS configurations, date, and time information) in the CMOS when the computer is turned off. Replace the battery when the battery voltage drops to a low level, or the CMOS values may not be accurate or may be lost.
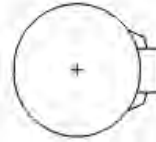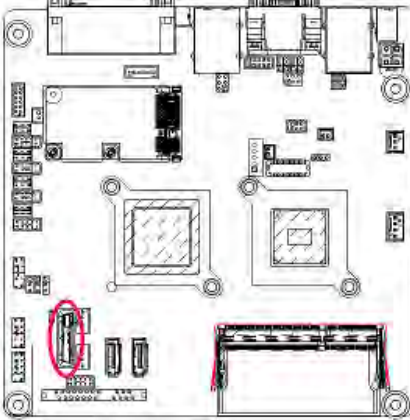
You may clear the CMOS values by removing the battery:
1. Turn off your computer and unplug the power cord.
2. Gently remove the battery from the battery holder and wait for one minute. (Or use a metal object like a screwdriver to touch the positive and negative terminals of the battery holder, making them short for 5 seconds.)
3. Replace the battery.
4. Plug in the power cord and restart your computer.

- Always turn off your computer and unplug the power cord before replacing the battery.
- Replace the battery with an equivalent one. Danger of explosion if the battery is replaced with an incorrect model.
- Contact the place of purchase or local dealer if you are not able to replace the battery by yourself or uncertain about the battery model.
- When installing the battery, note the orientation of the positive side (+) and the negative side (-) of the battery (the positive side should face up).
- Used batteries must be handled in accordance with local environmental regulations.

20/21/22/23/28) COM6/COM3/COM5/COM1/COM4 (Serial Port Header)

The COM header can provide one serial port via an optional COM port cable. For purchasing the optional COM port cable, please contact the local dealer.
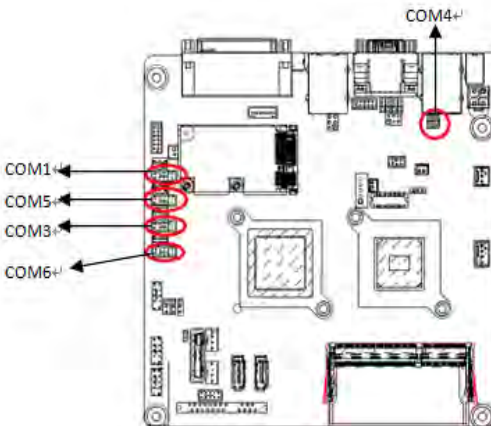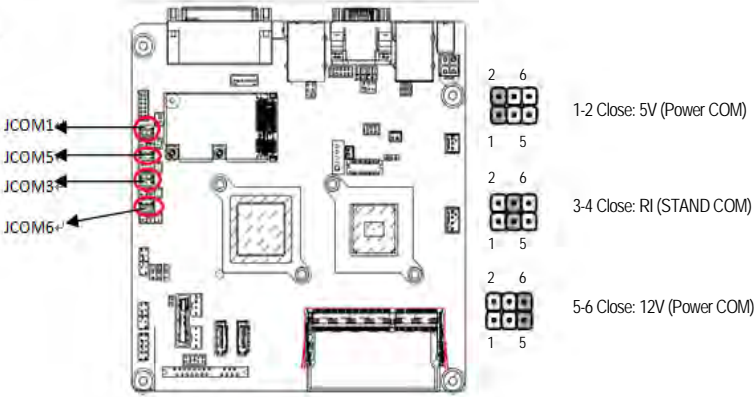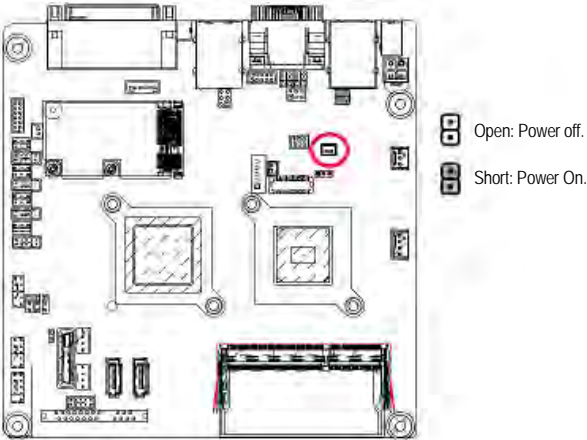

Pin No.	Definition
1	DCD
2	DSR
3	RXD
4	RTS
5	TXD
6	CTS
7	DTR
8	RI/+5V/+12V
9	GND
10	RI/+5V/+12V

24/25/26/27) JCOM6/JCOM3/JCOM5/JCOM1 (5V/12V/RI for Serial Port Option Header)

2 6

1 5

1-2 Close: 5V (Power COM)

2 6

1 5

3-4 Close: RI (STAND COM)

2 6

1 5

5-6 Close: 12V (Power COM)

JCOM1
JCOM5
JCOM3
JCOM6

29) LCDPWR_CON (LCD Power ON/OFF Jumper)

Open: Power off.

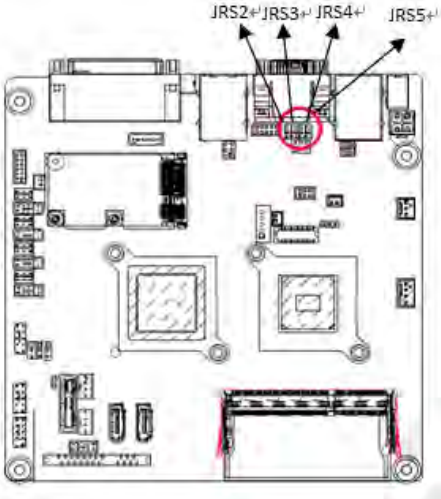Short: Power On.

30) BKLTEN_CON (Back light Inverter Enable/Disable Jumper)
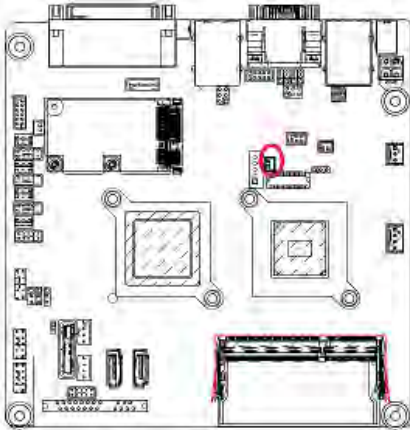
Open: Disable Back light Inverter.

Short: Enable Back light Inverter.

31) JRS2/JRS3/JRS4/JRS5 (RS232/RS422/RS485 Mode Select Jumper)

JRS2   JRS3   JRS4   JRS5

JRS2

Pin No.	Definition
1	RS485 D- Signal
2	COM2 Pin 1
3	RS232 DCD Signal

JRS3

Pin No.	Definition
1	RS485 D+ Signal
2	COM2 Pin 2
3	RS232 RXD Signal

JRS4

| Pin No.	Definition
1	RS422 D- Signal
2	COM2 Pin 4
3	RS232 DTR Signal

JRS5

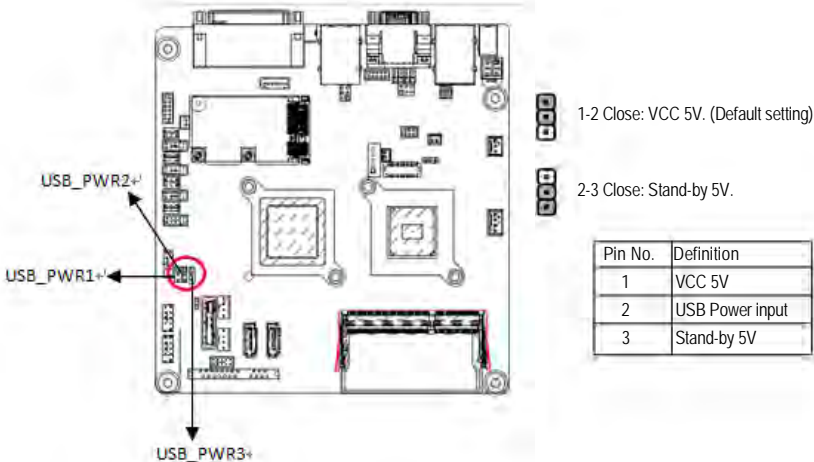| Pin No.	Definition
1	RS422 D- Signal
2	COM2 Pin 3
3	RS232 TXD Signal

32) CLR_CMOS1 (Clearing CMOS Jumper)

Use this jumper to clear the CMOS values (e.g. date information and BIOS configurations) and reset the CMOS values to factory defaults. To clear the CMOS values, place a jumper cap on the two pins to temporarily short the two pins or use a metal object like a screwdriver to touch the two pins for a few seconds.


1 1-2 Close: Clear CMOS data)

1 2-3 Close: Normal operation (Default setting)
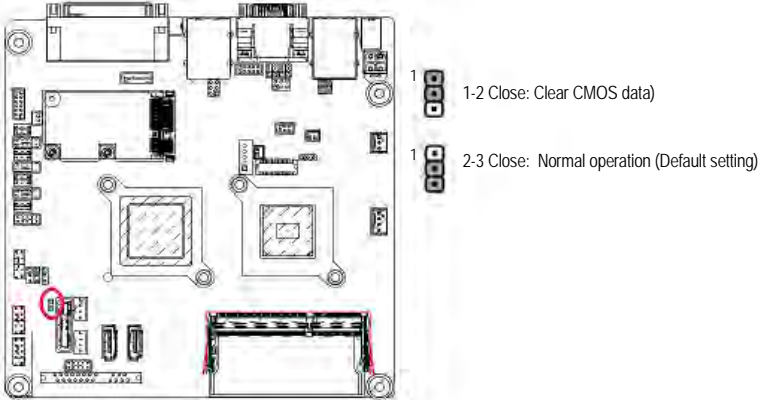
⚠ • Always turn off your computer and unplug the power cord from the power outlet before clearing the CMOS values.
• After clearing the CMOS values and before turning on your computer, be sure to remove the jumper cap from the jumper. Failure to do so may cause damage to the motherboard.
• After system restart, go to BIOS Setup to load factory defaults (select **Load Optimized Defaults**) or manually configure the BIOS settings (refer to Chapter 2, "BIOS Setup," for BIOS configurations).

33) USB_PWR1/USB_PWR2/USB_PWR3 (USB Stand-by 5V/VCC 5V Select Jumper)

USB_PWR2+

USB_PWR1+

1-2 Close: VCC 5V. (Default setting)

2-3 Close: Stand-by 5V.

Pin No.	Definition
1	VCC 5V
2	USB Power input
3	Stand-by 5V

USB_PWR3+

34) LVDS_PWR1 (LVDS 3V/5V Select Jumper)
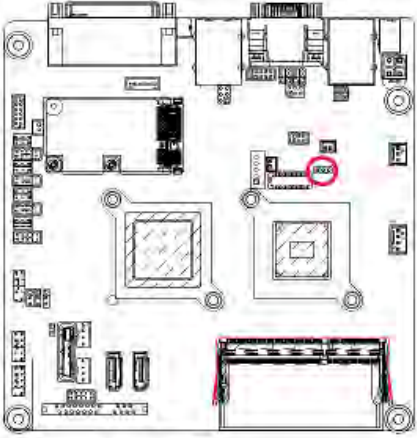
1 [⬛⬛⬛] 1-2 Close: 3.3V. (Default setting)

1 [⬛⬛⬛] 2-3 Close: 5V.

Pin No.	Definition
1	3.3V
2	Power input
3	5V

Hardware Installati