MX87QD

Intel® Socket LGA1150
4th Generation Core i7/i5/i3 22nm Haswell CPU

Mini-ITX Motherboard

User's Quick Start Card	Version 1.0	http://www.bcmcom.com

• Inspect the Package:

One **MX87QD Motherboard**
One **DC-DC extension Cable**
Two **SATA Cables**
One **SATA Power Y Cables**
One **Dual COM Port Cables**
One **I/O Shield**
One **User's Quick Start Card**

MX87QD

COM Cable

I/O Shield

⚠ WARNING: CMOS Battery Damage

Replace your system's CMOS RAM battery only with the identical CR-2032 3V Lithium-Ion coin cell (or equivalent) battery type to avoid risk of personal injury or physical damage to your equipment. Always dispose of used batteries according to the manufacturer's instructions, or as required by the local ordinance (where applicable). The damage due to not following this warning will void your motherboard's manufacturer warranty.

Perchlorate Material- Special Handling May Apply.
See http://www.dtsc.ca.gov/hazardouswaste/perchlorate/

⚠ ATTENTION: Incorrect BIOS Setup

If you do not know how to handle BIOS setup or how to set it up properly, it is strongly advisable that you do not modify any of the settings than otherwise instructed in the User's Quick Start Card. Even a seemingly small incorrect adjustment or modification in the BIOS setup can render your system unstable or unusable. The incorrect BIOS setup is not covered by your motherboard's manufacturer warranty.

• Additional Information (User's Manual / Drivers download):

Additional information on setting this board up can be found in the User's Manual. The motherboard User's Manual, Device Drivers, and General Troubleshoot Tips can be found on our website by visiting our website: **http://www.bcmcom.com/bcm_support_drivers.htm**. If your question is not answered in our General Troubleshoot Tips Base, visit our website and submit the Technical Support form for further assistant.

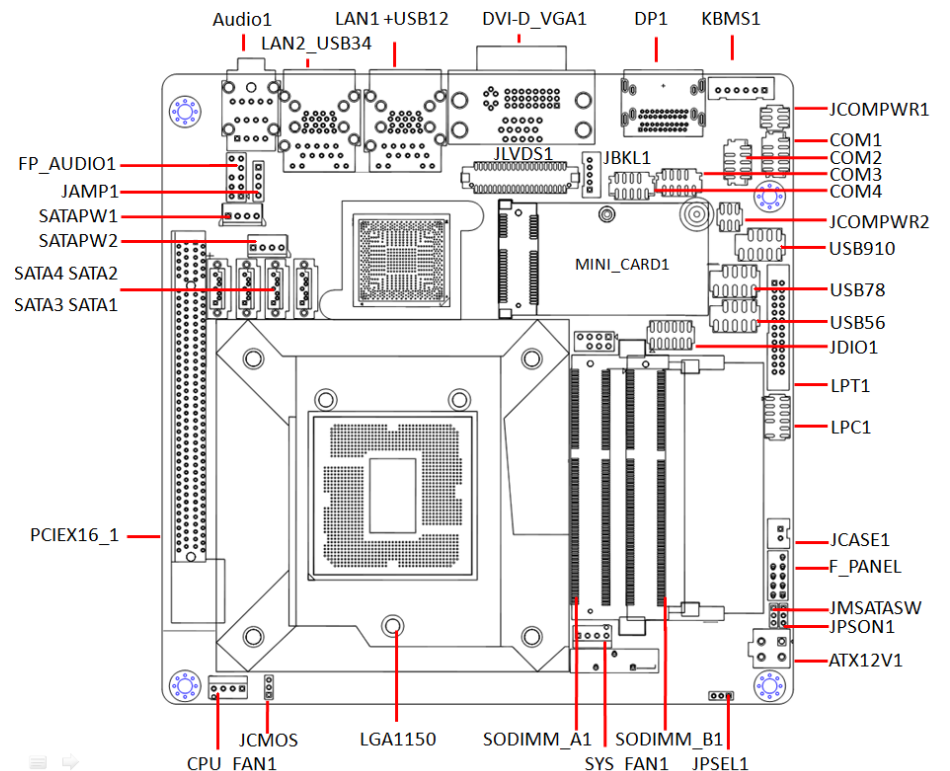## ⚠ WARNING: Electrostatic Sensitive Device (ESD)

Static electricity can easily damage your motherboard and will void your motherboard warranty. Keep the motherboard and other system components in their anti-static packaging until you are ready to install them. Touch a grounded surface before you remove any system component from its protective anti-static packaging. Unpacking and installation should be done on a grounded, anti-static mat. The operator should be wearing an anti-static wristband, grounded at the same points as the anti-static mat. During configuration and installation touch a grounded surface frequently to discharge any static electrical charge that may have built up in your body. Avoid touching the components when handling the motherboard or a peripheral card. Handle the motherboard and peripheral cards either by the edges or by the peripheral card case-mounting bracket.
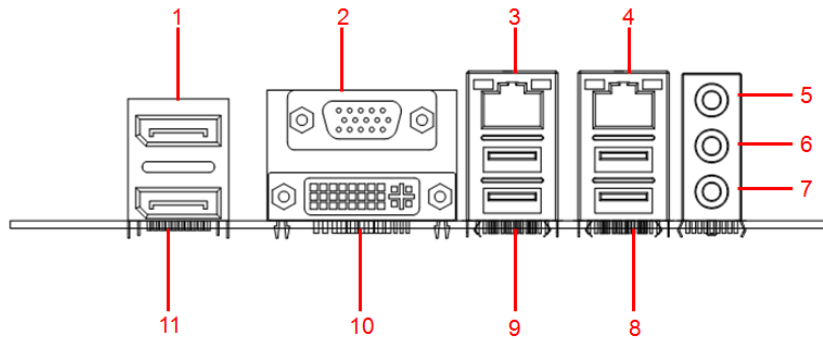
⚠ WARNING: Misplaced Jumper Damage

Incorrect setting jumpers and connectors may lead to damage to your motherboard and will void your motherboard warranty. Please pay special attention not to connect these headers in wrong directions. DO NOT change ANY jumpers while the motherboard has the power!
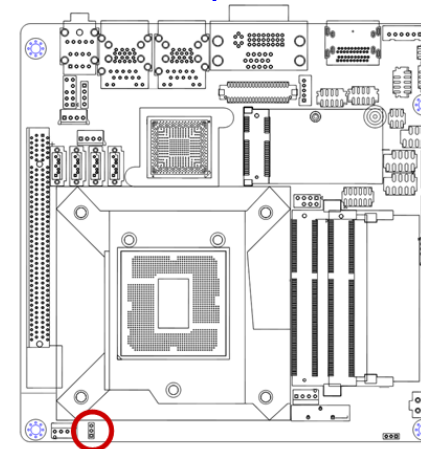
Motherboard Layout:
• Board Layout:

• Back Panel:

Item	Name	Function	Description
1	DP1	Display Port 2	The DP2 Connector
2	VGA	VGA Video Port	The VGA15-pin Connector.
3/4	LAN1/ LAN2	Gigabit LAN (RJ-45) Connectors	This port allows Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.
5	AUDIO	Line-in port (Light blue)	This port connects a tape, CD, DVD player, or other audio sources.
6	AUDIO	Line-out port (Lime)	This port connects a headphone or a speaker.
7	AUDIO	Microphone port (Pink)	This port connects a microphone.
8	USB	USB 3.0 Connectors	These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 3.0 devices.
9	USB	USB 3.0 Connectors	These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 3.0 devices.
10	DVI	DVI Video Port	DVI-D 24-Pin Connector.
11	DP1	Display Port 1	The DP1 Connector

ACT/LINK LED   SPEED LED

LAN port

ACT/Link LED		Speed LED	
Status	Description	Status	Description
OFF	No link	OFF	10Mbps connection
Orange	Linked	Orange	100Mbps connection
Blinking	Data activity	Green	1Gbps connection

Connectors, Jumpers, & Headers:

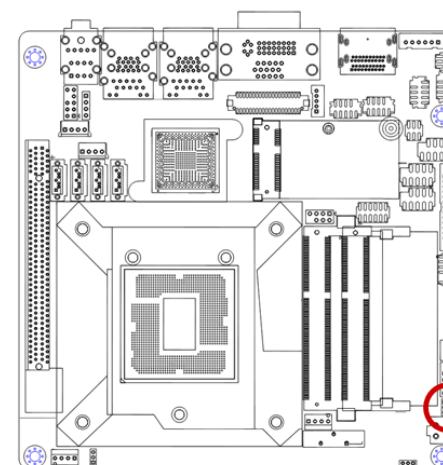### • Clear CMOS Jumper: JCMOS

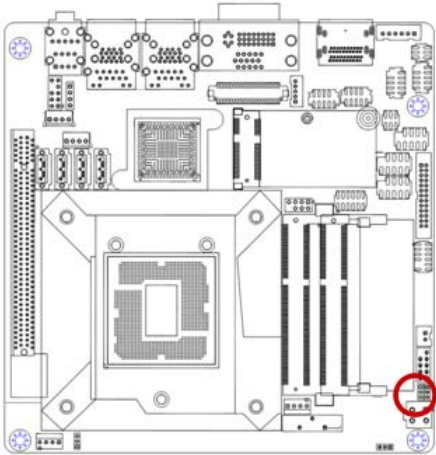Normal (Default)   Clear CMOS

• ATX/AT Mode Selection: JPSON1

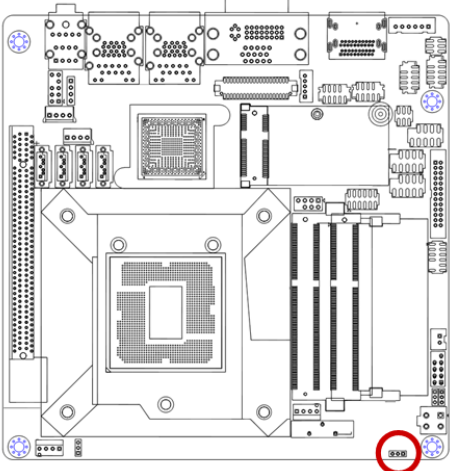ATX MODE (Default)   AT MODE

• M-SATA/mini PCIe Selection (JMSATA)
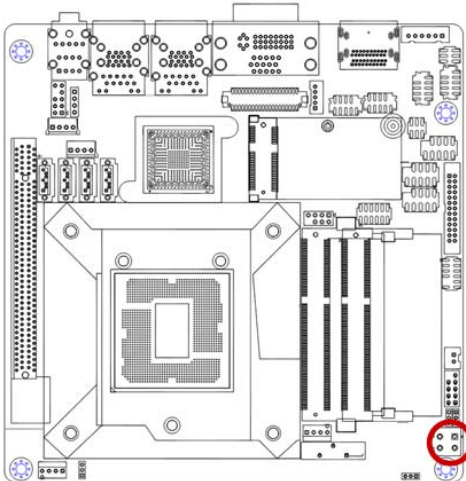

M-SATA   Mini-PCIe (Default)

• DC Power Connectors: ATX12V1 (4-pin)

ATX12V1

1

GND — GND
+12V — +12V

• DC Power Source Setting (JPSEL1)

DC in 16V~ 24V   DC in 12V (Default)
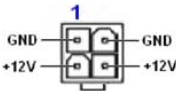
• Serial Port Connectors: COM1, COM2, COM3, COM4
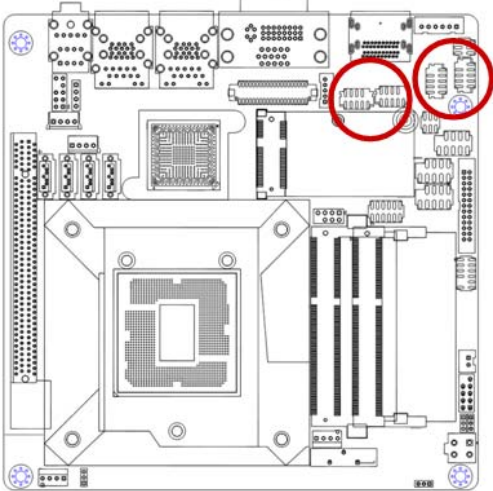
COM1, COM2, COM3, COM4

1   2
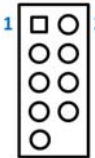
1. DCD   2.RXD
3. TXD   4. DTR
5. GND   6. DSR
7. RTS   8. CTS
9. Power

• LVDS Connector: JLVDS1

(Hirose. 40P 1.25mm 90D SMD DF13-40DP-1.25V(91))
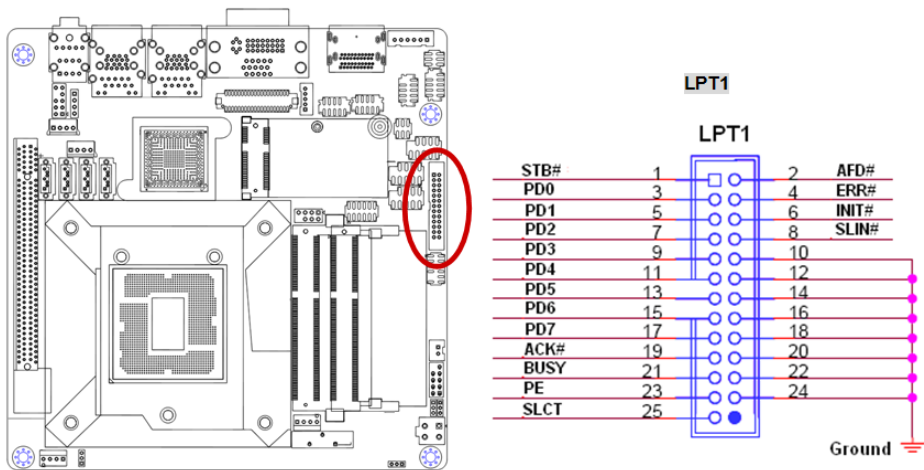
JLVDS1

LVDS0_N1	LVDS0_P3	LVDS1_P1
LVDS0_P1	LVDS0_N3	LVDS1_N1 LVDS1_P3
GND		LVDS1_N3
SC_DDC	GND GND GND	LVDS1_CLKP
+3.3V		LVDS1_CLKN
+3.3V		GND
+5V		+12V
+5V		+12V
SD_DDC		GND
GND	GND GND GND	LVDS0_CLKP
LVDS0_P0	LVDS0_P2	LVDS0_CLKN
LVDS0_N0	LVDS0_N2	LVDS1_N0 LVDS1_N2
		LVDS1_P0 LVDS1_P2
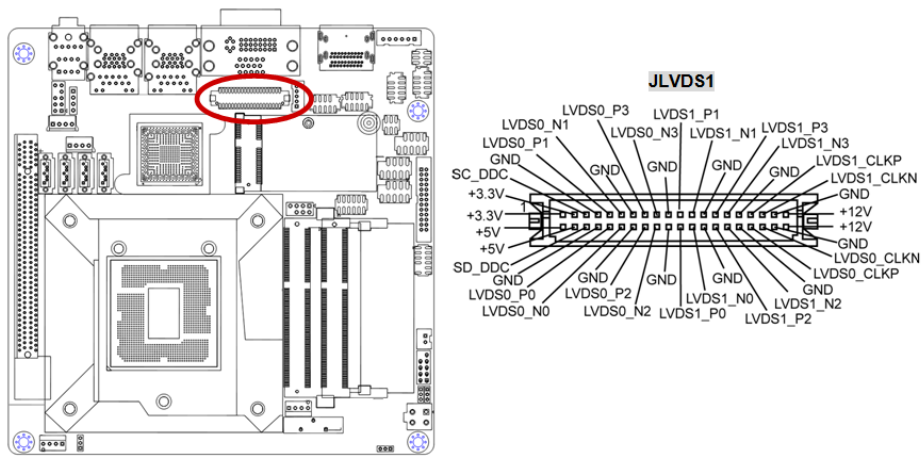
• COM1/COM2, COM3/COM4 Ring-In/ +12V/ +5V Select: JCOMPWR1, JCOMPWR2

RI (Default)

2 □ □ 6
1 □ □ 5

+12V

2 □ □ 6
1 □ □ 5

+5V

2 □ □ 6
1 □ □ 5
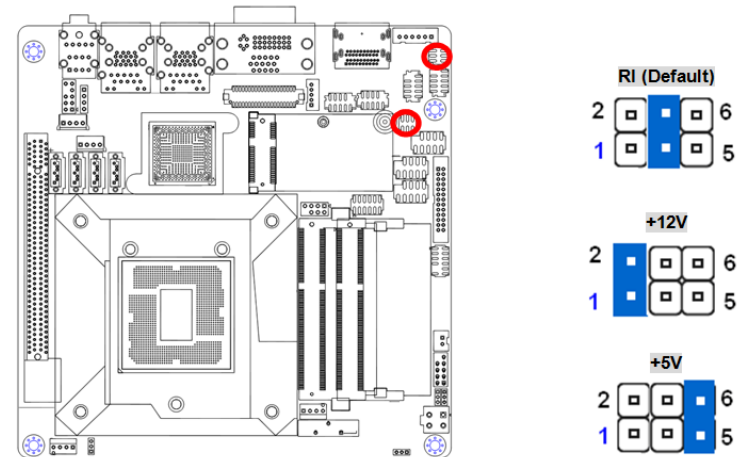
•Back Light Controller Connector: JBKL1

JBKL1

```
ENBKL
 1        +5V
  □□□□□
+12V     VR
     GND
```

• LPT Port Connector: LPT1

LPT1

STB#	1	2	AFD#
PD0	3	4	ERR#
PD1	5	6	INIT#
PD2	7	8	SLIN#
PD3	9	10	
PD4	11	12	
PD5	13	14	
PD6	15	16	
PD7	17	18	
ACK#	19	20	
BUSY	21	22	
PE	23	24	
SLCT	25		

Ground
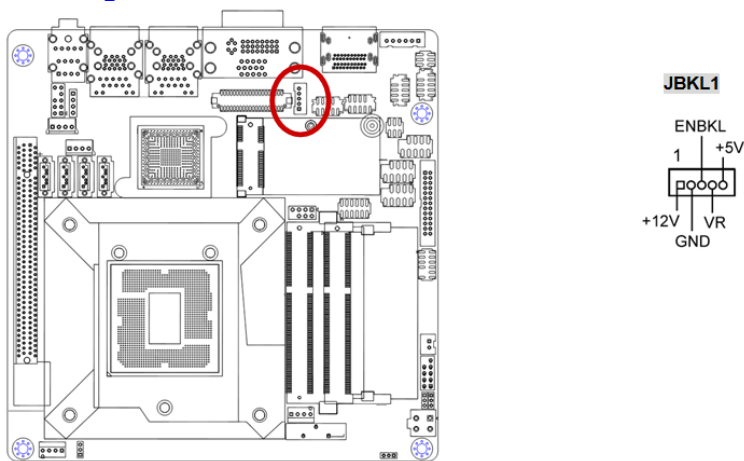
• Front Panel Connector: F_PANEL

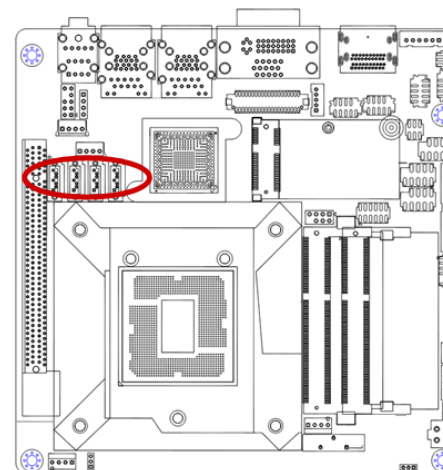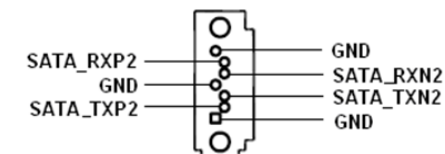**F_PANEL**

1 □	2
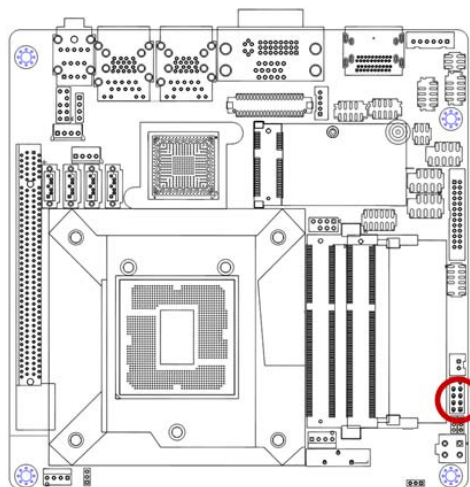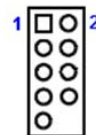
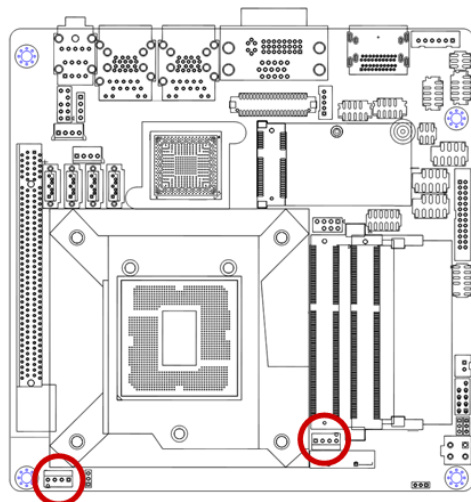| 1. HDD_LED+ | 2. SUPLED |
3. SATA_LED#	4. GND
5. GND	6. PANSWIN#
7. SRST#	8. GND
9. NC	

• Fan Connectors: CPU_FAN1,SYS_FAN1

CPU_FAN1
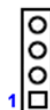
4. FAN_PWM1_C
3. FANCPUDEC1
2. +V12
1. GND

SYS_FAN1

4. FAN_PWM1_C
3. FANCPUDEC1
2. +V12
1. GND

• SATA 3.0 Ports: SATA1, SATA2, SATA3, SATA4

SATA1, SATA2, SATA3, SATA4
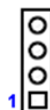
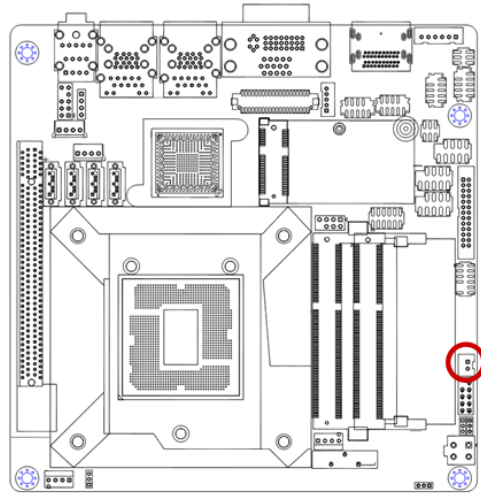| SATA_RXP2	—	—	GND
GND	—	—	SATA_RXN2
SATA_TXP2	—	—	SATA_TXN2
			GND

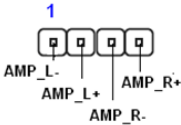## • Front USB 2.0 Headers: USB56, USB78, USB910
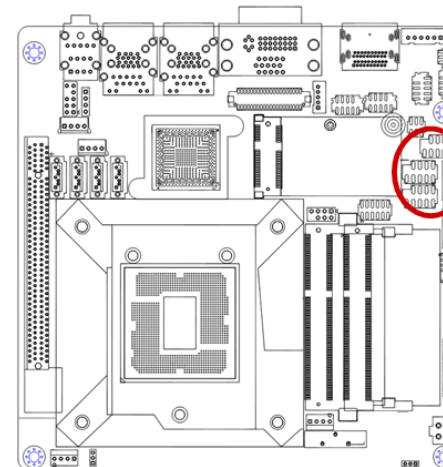
USB56, USB78, USB910

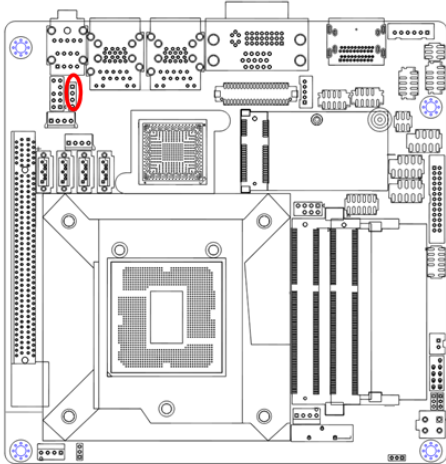| 1 □	2
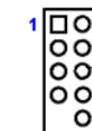
1.USB+5V	2.USB+5V
3.USB -	4. USB -
5.USB +	6.USB +
7.GND	8. GND
9. NC	

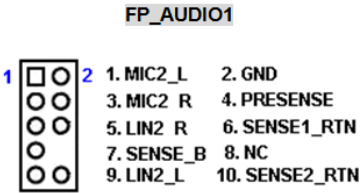## • Chassis Intrusion Connector: JCASE1
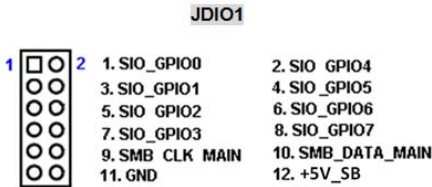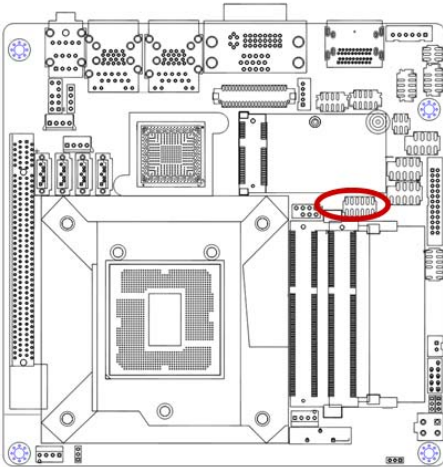

- GND
- Chassis Signal
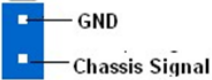
• Amplifier Connector: JAMP1

1

AMP_L-
AMP_L+   AMP_R+
AMP_R-

• Front Panel Audio Connector: FP_AUDIO1

FP_AUDIO1

1 ☐○ 2

1. MIC2_L	2. GND
3. MIC2 R	4. PRESENSE
5. LIN2 R	6. SENSE1_RTN
7. SENSE_B	8. NC
9. LIN2_L	10. SENSE2_RTN
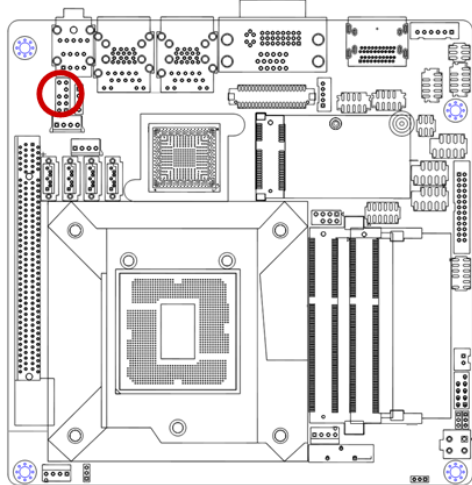
• Digital I/O Connector: JDIO1

JDIO1

1 ☐○ 2

1. SIO_GPIO0	2. SIO GPIO4
3. SIO_GPIO1	4. SIO_GPIO5
5. SIO GPIO2	6. SIO_GPIO6
7. SIO_GPIO3	8. SIO_GPIO7
9. SMB CLK MAIN	10. SMB_DATA_MAIN
11. GND	12. +5V_SB

• Save the Processor Socket Cover

After removing the processor cover during processor installation, please save the processor socket cover.
In the event that the desktop board needs to be returned for service or any time the processor is removed, the cover should be replaced on the processor socket.

• Do not Touch Socket Contact