

Chapter

1

**Quick
Installation
Guide**

1.1 Safety Precaution

Warning!



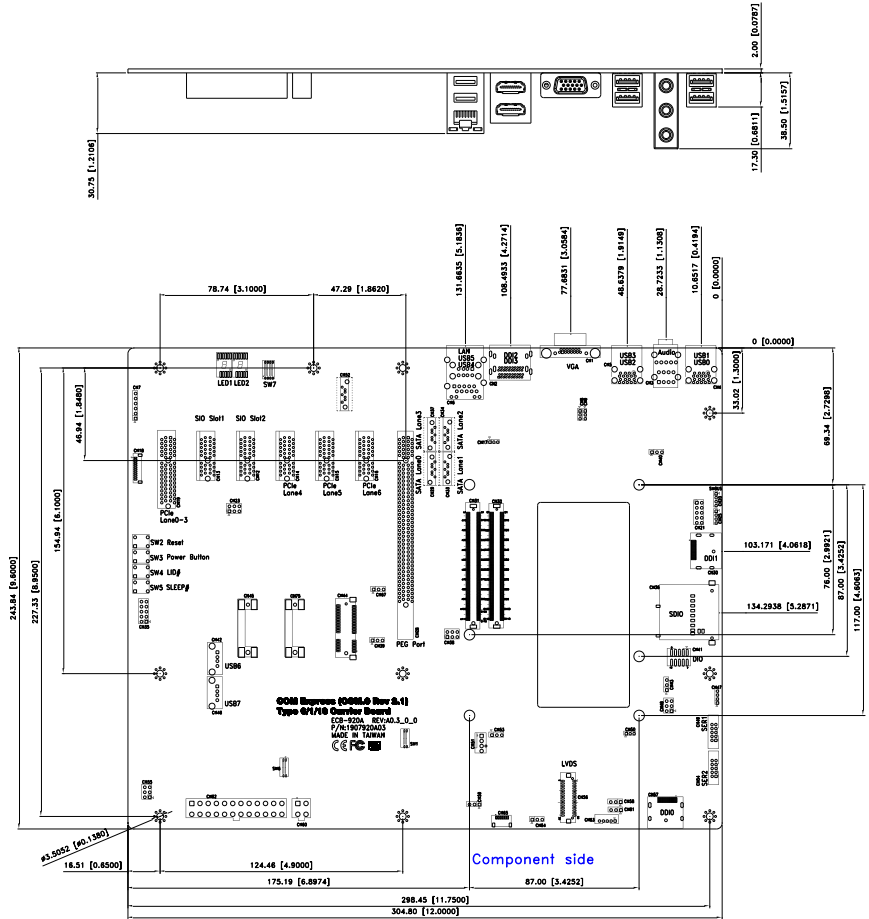
Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Caution!



Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

1.2 Location of Connectors and Jumpers/ Mechanical Drawing



1.3 List of Jumpers

The board has a number of jumpers that allow you to configure your system to suit your application.

Label	Function
CN8	Type 1/6/10 Setting
CN9	Type 1/6/10 Setting
CN17	Type 1/6/10 Setting
CN23	Keyboard controller Setting
CN38	ATX/AT & +5V_DUAL Setting
CN39	PCIe & mSATA Setting
CN40	Audio codec power Setting
CN43	TPM Setting
CN48	Serial Port 2 & CAN BUS Setting
CN50	Type 1/6/10 Setting
CN53	FAN Voltage Setting
CN55	ATX/AT Setting
CN58	BKL Control Setting
CN59	CMOS RTC Setting
CN61	LVDS Inverter Voltage Setting
CN64	LVDS Operating Voltage Setting
CN67	USB 2.0 Port 7 Setting

Note:

Black jumpers: Type setting

Yellow jumpers: Signal

Red jumpers: Power

1.4 List of Connectors

The board has a number of connectors that allow you to configure your system to suit your application.

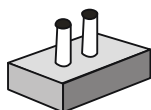
Label	Function
CN1	VGA Port
CN2	Display Port 2/3 connector
CN3	Audio Connector
CN4	USB 3.0 Port 0 and 1
CN5	USB 3.0 Port 2 and 3
CN6	USB 2.0 Port 4 and 5, LAN Connector
CN7	JTAG Programming Port
CN13	Super I/O Card Slot 1
CN14	PCI-Express [x1] Connector
CN15	PCI-Express [x1] Connector
CN16	PCI-Express [x1] Connector
CN18	LPC Connector
CN19	PCI-Express [x4] Connector
CN20	SMBUS Connector
CN25	I2C Connector
CN28	PCI-Express [x16] Connector
CN29	SATA Port 0 Connector
CN30	Display port 1 Connector
CN31	COM-Express Connector (Row A & B)
CN32	COM-Express Connector (Row C & D)

CN33	SATA Port 1 Connector
CN34	SATA Port 2 Connector
CN35	Front Panel Connector
CN36	SDIO Connector
CN37	SATA Port 3 Connector
CN41	Digital I/O Connector
CN42	USB 2.0 Port 6 Connector
CN44	Mini Card Slot
CN46	USB 2.0 Port 7 Connector
CN47	CAN BUS Connector
CN49	Serial Port 1 Connector
CN51	FAN Connector
CN54	Serial Port 2 Connector
CN56	LVDS Connector
CN57	Display port 0 Connector
CN60	ATX 12V Power Connector
CN62	ATX Power Connector
CN63	LVDS Inverter Connector
SW2	Reset Button
SW3	Power Button
SW4	LID Button
SW5	Sleep Button
SW7	Digital Display Interface AUX/DDC Switch
BT1	RTC Battery Connector

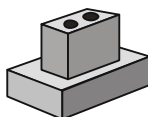
1.5 Setting Jumpers

You configure your card to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip.

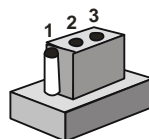
To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2 or 2 and 3.



Open



Closed



Closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any change.

Generally, you simply need a standard cable to make most connections.

1.6 Type 1/6/10 Setting (CN8)

Label	Function
1-2	Type 6 / Type 1 (Default)
2-3	Type 10

1.7 Type 1/6/10 Setting (CN9)

Label	Function
1-2	Type 6 / Type 1 (Default)
2-3	Type 10

1.8 Type 1/6/10 Setting (CN17)

Label	Function
1-2	Type 6 / Type 1 (Default)
2-3	Type 10

1.9 Keyboard controller Setting (CN23)

Label	Function
1-3,2-4	From SIO Slot1 (Default)
3-5,4-6	From SIO Slot2

1.10 ATX/AT & +5V_DUAL Setting (CN38)

Label	Function
1-3,2-4	+5V_DUAL For ATX power (Default)
3-5,4-6	N/C

1.11 PCIe & mSATA Setting (CN39)

Label	Function
1-2	PCIe (Default)
2-3	mSATA

1.12 Audio codec power Setting (CN40)

Label	Function
1-2	+3.3V (Default)
2-3	+1.5V_DUAL

1.13 TPM Setting (CN43)

Label	Function
1-2	Enable
2-3	Disable (Default)

1.14 Serial Port 2 & CAN BUS Setting (CN48)

Label	Function
1-3,2-4	Serial Port 2 (Default)
3-5,4-6	CAN BUS

1.15 Type 1/6/10 Setting (CN50)

Label	Function
1-2	Type 6 / Type 1 (Default)
2-3	Type 10

1.16 FAN Voltage Setting (CN53)

Label	Function
1-2	+12V
2-3	+5V (Default)

1.17 ATX/AT Setting (CN55)

Pin	Signal	Pin	Signal
1	PS_ON#	2	+5VSB_ATX
3	PS_ON#_ATX	4	+5VSB
5	GND	6	N/C

1.18 BKL Control Setting (CN58)

Label	Function
1-2	SMBus Control
2-3	Chips Control (Default)

1.19 CMOS RTC Setting (CN59)

Label	Function
1-2	Normal (Default)
2-3	Clear CMOS

1.20 LVDS Inverter Voltage Setting (CN61)

Label	Function
1-2	+12V
2-3	+5V (Default)

1.21 LVDS Operating Voltage Setting (CN64)

Label	Function
1-2	+5V
2-3	+3.3V (Default)

1.22 USB 2.0 Port 7 Setting (CN67)

Label	Function
1-2	Mini Card (Default)
2-3	CN46

1.23 VGA Port (CN1)

Pin	Signal	Pin	Signal
1	RED	2	GREEN
3	BLUE	4	N/C
5	GND	6	GND
7	GND	8	GND
9	+5V	10	CRT_PLUG#
11	N/C	12	DDCDATA
13	HSYNC	14	VSYNC
15	DDCCLK		

1.24 Display Port 2/3 Connector (CN2)

Pin	Signal	Pin	Signal
1	DP2_PAIR0+	2	GND

3	DP2_PAIR0-	4	DP2_PAIR1+
5	GND	6	DP2_PAIR1-
7	DP2_PAIR2+	8	GND
9	DP2_PAIR2-	10	DP2_PAIR3+
11	GND	12	DP2_PAIR3-
13	GND	14	GND
15	DP2_AUX+	16	GND
17	DP2_AUX-	18	DDI2_HPD
19	GND	20	+3.3V
21	DP3_PAIR0+	22	GND
23	DP3_PAIR0-	24	DP3_PAIR1+
25	GND	26	DP3_PAIR1-
27	DP3_PAIR2+	28	GND
29	DP3_PAIR2-	30	DP3_PAIR3+
31	GND	32	DP3_PAIR3-
33	GND	34	GND
35	DP3_AUX+	16	GND
37	DP3_AUX-	38	DDI3_HPD
39	GND	40	+3.3V

1.25 Audio Connector (CN3)

Color	Function
Blue	Line In
Green	Line Out

Pink MIC In

1.26 USB 3.0 Port 0 and 1 (CN4)

Pin	Signal	Pin	Signal
1	+V5A_USB_0	2	USB0-
3	USB0+	4	GND
5	SSRX0N	6	SSRX0P
7	GND	8	SSTX0N
9	SSTX0P	10	+V5A_USB_1
11	USB1-	12	USB1+
13	GND	14	SSRX1N
15	SSRX1P	16	GND
17	SSTX1N	18	SSTX1P

1.27 USB 3.0 Port 2 and 3 (CN5)

Pin	Signal	Pin	Signal
1	+V5A_USB_2	2	USB2-
3	USB2+	4	GND
5	SSRX2N	6	SSRX2P
7	GND	8	SSTX2N
9	SSTX2P	10	+V5A_USB_3
11	USB3-	12	USB3+
13	GND	14	SSRX3N
15	SSRX3P	16	GND

17	SSTX3N	18	SSTX3P
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1.28 USB 2.0 Port 4 and 5, LAN Connector (CN6)

Pin	Signal	Pin	Signal
L1	GBE0_CTREF	L2	GBE0_MDI0+
L3	GBE0_MDI0-	L4	GBE0_MDI1+
L5	GBE0_MDI1-	L6	GBE0_MDI2+
L7	GBE0_MDI2-	L8	GBE0_MDI3+
L9	GBE0_MDI3-	L10	GND
D1	GBE0_ACT#	D2	+3.3V_DUAL
D3	GBE0_LINK100#	D4	GBE0_LINK1000#
U1	+5V_DUAL_USB_4_5	U2	USB4-
U3	USB4+	U4	GND
U5	+5V_DUAL_USB_4_5	U6	USB5-
U7	USB5+	U8	GND

1.29 Super I/O Card Slot 1 (CN13)

Pin	Signal	Pin	Signal
A1	LPC_DRQ#	B1	N/C
A2	+12V	B2	N/C
A3	+12V	B3	N/C
A4	GND	B4	GND
A5	LPC_PME#	B5	LPC_AD2
A6	LPC_RST#	B6	SUS_S3#

A7	LPC_SERIRQ	B7	GND
A8	LPC_CLK	B8	RTCBAT
A9	+3.3V	B9	+5V_DUAL
A10	+3.3V	B10	+3.3V_DUAL
A11	SUS_S5#	B11	PCIE_WAKE#
A12	GND	B12	+5V
A13	LPC_AD0	B13	GND
A14	LPC_AD1	B14	KBD_RST#
A15	GND	B15	KBD_A20GATE
A16	LPC_AD3	B16	GND
A17	LPC_FRAME#	B17	WDT_RST#
A18	GND	B18	GND

1.30 PCI-Express [x1] Connector (CN14, CN15, CN16)

Standard PCI-Express [x1] Connector

1.31 LPC Connector (CN18)

Pin	Signal
1	LPC_AD0
2	LPC_AD1
3	LPC_AD2
4	LPC_AD3
5	+3.3V
6	LPC_FRAME#
7	LPC_RST#

8	GND
9	LPC_CLK
10	LPC_DRQ0#
11	LPC_DRQ1#
12	LPC_SERIRQ

1.32 PCI-Express [x4] Connector (CN19)

Standard PCI-Express [x4] Connector

1.33 SMBUS Connector (CN20)

Pin	Signal
1	GND
2	SMBDAT
3	SMBCLK
4	+3.3V_DUAL

1.34 I2C Connector (CN25)

Pin	Signal
1	GND
2	I2C_DAT
3	I2C_CLK
4	+3.3V_DUAL

1.35 PCI-Express [x16] Connector (CN28)

Standard PCI-Express [x16] Connector

1.36 SATA Port 0/1/2/3 Connector (CN29, CN33, CN34, CN37)

Standard SATA Connector

1.37 Display port 1 Connector (CN30)

Pin	Signal	Pin	Signal
1	DP1_PAIR0+	2	GND
3	DP1_PAIR0-	4	DP1_PAIR1+
5	GND	6	DP1_PAIR1-
7	DP1_PAIR2+	8	GND
9	DP1_PAIR2-	10	DP1_PAIR3+
11	GND	12	DP1_PAIR3-
13	GND	14	GND
15	DP1_AUX+	16	GND
17	DP1_AUX-	18	DP1_HPD
19	GND	20	+3.3V

1.38 COM-Express Connector (ROW A&B) (CN31)

Standard COM Express (Row A & B) for Type 6 / Type 10 / Type 1

1.39 COM-Express Connector (ROW C&D) (CN32)

Standard COM Express (Row C & D) for Type 6

1.40 Front Panel Connector (CN35)

Pin	Signal	Pin	Signal
1	PWR_BTN-	2	PWR_BTN+
3	HDD_LED-	4	HDD_LED+
5	SPEAKER-	6	SPEAKER+
7	PWR_LED-	8	PWR_LED+
9	H/W RESET-	10	H/W RESET+

1.41 SDIO Connector (CN36)

Standard SDIO Connector

1.42 Digital I/O Connector (CN41)

Pin	Signal	Pin	Signal
1	GPI0	2	GPO0
3	GPI1	4	GPO1
5	GPI2	6	GPO2
7	GPI3	8	GPO3
9	+5V	10	GND

1.43 USB 2.0 Port 6 Connector (CN42)

Pin	Signal
1	+5V_DUAL
2	USB6-
3	USB6+

4	GND
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1.44 Mini Card Slot (CN44)

Standard Mini Card Slot

1.45 USB 2.0 Port 7 Connector (CN46)

Pin	Signal
1	+5V_DUAL
2	USB7-
3	USB7+
4	GND

1.46 CAN BUS Connector (CN47)

Pin	Signal
1	CANH
2	GND
3	CANL
4	N/C

1.47 Serial Port 1 Connector (CN49)

Pin	Signal	Pin	Signal
1	N/C	2	SER0_RX
3	SER0_TX	4	N/C
5	GND	6	N/C
7	N/C	8	N/C

9	N/C	10	N/C
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1.48 FAN Connector (CN51)

Pin	Signal
1	GND
2	FAN_POWER
3	FAN_TAC
4	FAN_CTL

1.49 Serial Port 2 Connector (CN54)

Pin	Signal	Pin	Signal
1	N/C	2	SER1_RX
3	SER1_TX	4	N/C
5	GND	6	N/C
7	N/C	8	N/C
9	N/C	10	N/C

1.50 LVDS Connector (CN56)

Pin	Signal	Pin	Signal
1	LVDS_BKLT_EN	2	LVDS_BKLT_CTRL
3	LCD_PWR	4	GND
5	LVDS_A_CK-	6	LVDS_A_CK+
7	LCD_PWR	8	GND
9	LVDS_A0-	10	LVDS_A0+

11	LVDS_A1-	12	LVDS_A1+
13	LVDS_A2-	14	LVDS_A2+
15	LVDS_A3-	16	LVDS_A3+
17	LVDS_DDCDAT	18	LVDS_DDCCLK
19	LVDS_B0-	20	LVDS_B0+
21	LVDS_B1-	22	LVDS_B1+
23	LVDS_B2-	24	LVDS_B2+
25	LVDS_B3-	26	LVDS_B3+
27	LCD_PWR	28	GND
29	LVDS_B_CK-	30	LVDS_B_CK+

1.51 Display port 0 Connector (CN57)

Pin	Signal	Pin	Signal
1	DP0_PAIR0+	2	GND
3	DP0_PAIR0-	4	DP0_PAIR1+
5	GND	6	DP0_PAIR1-
7	DP0_PAIR2+	8	GND
9	DP0_PAIR2-	10	DP0_PAIR3+
11	GND	12	DP0_PAIR3-
13	GND	14	GND
15	DP0_AUX+	16	GND
17	DP0_AUX-	18	DP0_HPD
19	GND	20	+3.3V

1.52 ATX 12V Power Connector (CN60)

Standard ATX 12V Power Connector

1.53 ATX Power Connector (CN62)

Standard ATX Power Connector

1.54 LVDS Inverter Connector (CN63)

Pin	Signal
1	+5V / +12V
2	BKL_CONTROL
3	GND
4	GND
5	BKL_ENABLE

1.55 Digital Display Interface AUX/DDC Switch (SW7)

Position	Function
1 OFF	Configured as AUX of DDI0
1 ON	Configured as DDC of DDI0
2 OFF	Configured as AUX of DDI1
2 ON	Configured as DDC of DDI1
3 OFF	Configured as AUX of DDI2
3 ON	Configured as DDC of DDI2
4 OFF	Configured as AUX of DDI3
4 ON	Configured as DDC of DDI3

1.56 Type 1/ 6/ 10 Function Table

COMe Type	Type 1	Type 6	Type 10
PCI-E [x16]	—	1	—
PCI-E[x4]	1 (Lane 0~3)	1 (Lane 0~3)	1 (Lane 0~3)
PCI-E[x1]	2 (Lane 4~5)	3 (Lane 4~6)	—
VGA	1	1	—
DDI	—	3 (DDI 1~3)	1 (DDI 0)
LVDS	1	1	1
LAN	1	1	1
mSATA	1 Share with SATA Lane 0	1 Share with SATA Lane 0	—
Mini PCIe	—	1 (Lane 7)	—
SATA 2	4 (Lane 0~3)	4 (Lane 0~3)	2 (Lane 0~1)
Serial	—	2	2
USB 3.0	—	4 (Lane 0~3)	2 (Lane 0~1)
USB2.0	8	8	8
SDIO	—	1	1

Below Table for China RoHS Requirements

产品中有毒有害物质或元素名称及含量

AAEON Main Board/ Daughter Board/ Backplane

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板 及其电子组件	×	○	○	○	○	○
外部信号 连接器及线材	×	○	○	○	○	○
<p>O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。</p> <p>X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。</p> <p>备注: 此产品所标示之环保使用期限, 系指在一般正常使用状况下。</p>						