

# LS-57A

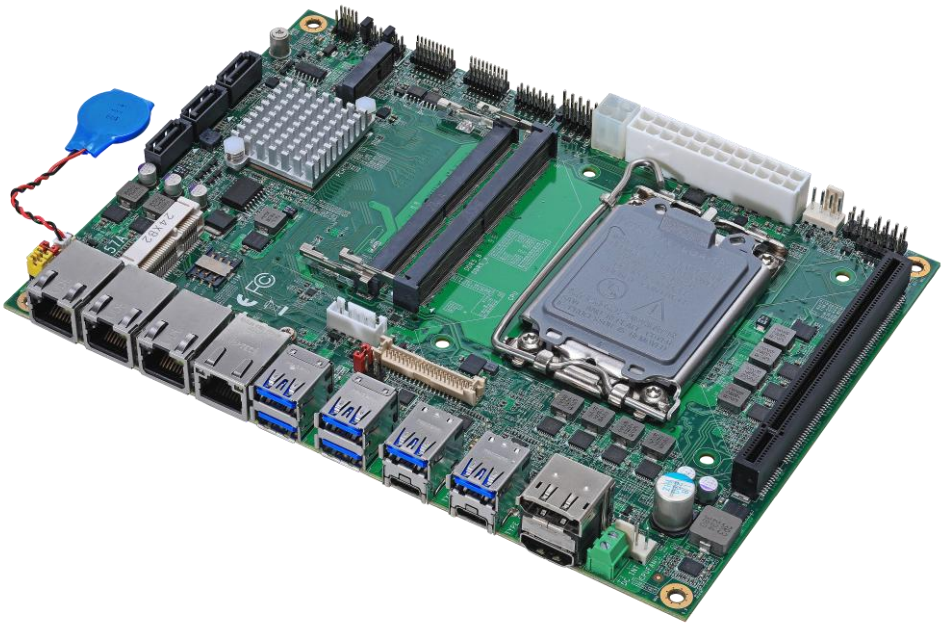
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## 5.25" Desktop Motherboard

### User's Manual

Edition 1.12

2025/01/03



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Any questions please visit our website at <http://www.commell.com.tw>

## Packing List:

Please check the package content before you starting using the board.



2 x SATA Cable  
(OALSATA3-L) / (1040529)



1 x Dual COM Cable  
(OALES-BKU2NB / 1040090)



1 x DC Input Power Cable  
(OALDC-B / 1040513)



1 x Audio Cable  
(OALPJ-HDUNB / 1040123)



1 x Power Cable  
(OALATX-P3S2 / 1040058)

## OPTIONAL:



1 x USB2.0 Cable  
(OALUSBA-3) / (1040173)

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# Chapter 1 <Introduction>

## 1.1 <Product Overview>

**LS-57A** is a **Mini-ITX** Motherboard which supports 12<sup>th</sup> & 13<sup>th</sup> & 14<sup>th</sup> Gen Desktop Processors, integrated DDR5 memory, Realtek High Definition Audio, Intel Gigabit LAN, USB3.2 Gen2, SATA3 with AHCI function for a system.

### **New feature for Alder Lake-S(12<sup>th</sup>) & Raptor Lake-S(13<sup>th</sup>) & Raptor Lake-S Refresh(14<sup>th</sup> Gen)**

12<sup>th</sup> & 13<sup>th</sup> & 14<sup>th</sup> Gen Desktop Processors are based on the Intel 7 SuperFin process, and offer long-life availability. i9-12900 with 8 P-cores and 8 E-cores. P-cores can help you handle heavy tasks, and E-cores run background tasks efficiently to save power. Support DDR5 Memory up to 4800 and PCIe gen 5 x16 Slot.

### **All in One multimedia solution**

The board provides one M.2 2230 slot, two M.2 2280 slot (PCIe Gen4), and one PCIe x16 slot (PCIe Gen5 X16).

### **Alder Lake support Windows10 version 21H2 64bit and Linux 5.18**

Intel recommends using Windows 10 version 21H2 64bit. It may lose some drivers if you use other Windows version.

## 1.2 <Product Specification>

### System

|                 |                                                                                                                                                                                 |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor       | Support 12 <sup>th</sup> & 13 <sup>th</sup> & 14 <sup>th</sup> Gen Intel® Core™ Desktop Processors<br>FCLGA1700 package (Support up to 65W TDP CPU)                             |
| Chipset         | Intel® Q670E                                                                                                                                                                    |
| Memory          | 2 x DDR5 SO-DIMM 4800 MHz up to 64GB,<br>Support Non-ECC, unbuffered memory only                                                                                                |
| Watchdog Timer  | Generates a system reset with internal timer for 1min/s ~ 255min/s                                                                                                              |
| Real Time Clock | Chipset integrated RTC with onboard lithium battery                                                                                                                             |
| Expansion       | 1 x M.2 2230 Key E for Wi-Fi and Bluetooth<br>2 x M.2 2280 Key M support PCIe Gen4 or SATA<br>1 x MiniPCIe with SIM Slot (support mSATA)<br>1 x PCIe X16 slot support PCIe Gen5 |

### Graphics

|                   |                                                                                   |
|-------------------|-----------------------------------------------------------------------------------|
| Chipset           | Intel® UHD Graphics 770 / 730 / 710                                               |
| Display Interface | 1 x LVDS (Note1), 1 x HDMI, 1 x DisplayPort (Note2),<br>2 x Type-C (DP Alt. Mode) |

### LAN

|      |                                                                                         |
|------|-----------------------------------------------------------------------------------------|
| Chip | 1 x Intel® I219-LM Gigabit LAN PHY (Support iAMT16.0)<br>3 x Intel® I226-LM Gigabit LAN |
|------|-----------------------------------------------------------------------------------------|

### I/O

|              |                                                                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Serial ATA   | 3 x SATA3                                                                                                                                  |
| Audio        | Realtek ALC888S HD Audio                                                                                                                   |
| Internal I/O | 3 x SATA3, 2 x RS232/485/422, 2 x RS232, 2 x USB2.0, 1 x LVDS, 1 x<br>LCD inverter connector, 1 x SIM slot, 1 x GPIO, 1 x Audio, 1 x SMBus |
| Rear I/O     | 1 x HDMI, 1 x DisplayPort, 4 x LAN, 5 x USB3.2 Gen2<br>1 x USB3.2 Gen1, 2 x Type-C (DP Alt. Mode)                                          |

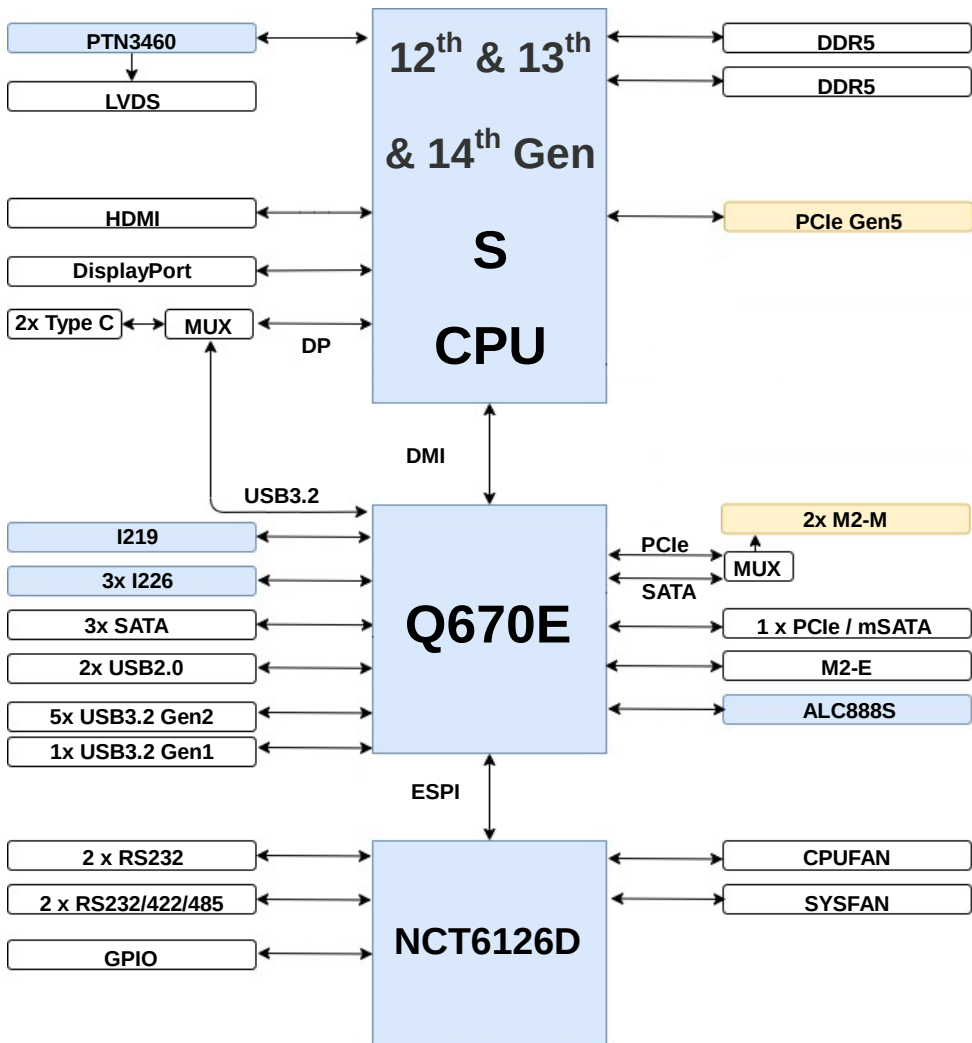
### Mechanical & Environmental

|                   |                                                                                  |
|-------------------|----------------------------------------------------------------------------------|
| Power Requirement | Standard 24-pin ATX power supply and 4-pin 12V<br>or DC input 9~28V              |
| Size & Thickness  | 203mm x 146mm (L x W)                                                            |
| Temperature       | Operating within 0°C~60°C (32°F~140°F)<br>Storage within -20°C~80°C (-4°F~176°F) |
| Relative Humidity | 10%~90%, non-condensing                                                          |

**Note1:** Onboard 18/24-bit single/dual channel +3.3V/ +5V/ +12V LVDS

**Note2:** Add ADP-3355 supports VGA or Add ADP-3460 supports 2nd LVDS, please contact with our sales for OEM version.

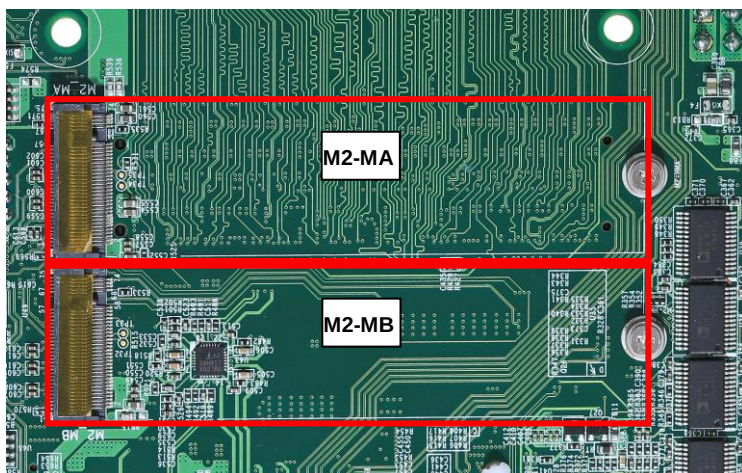
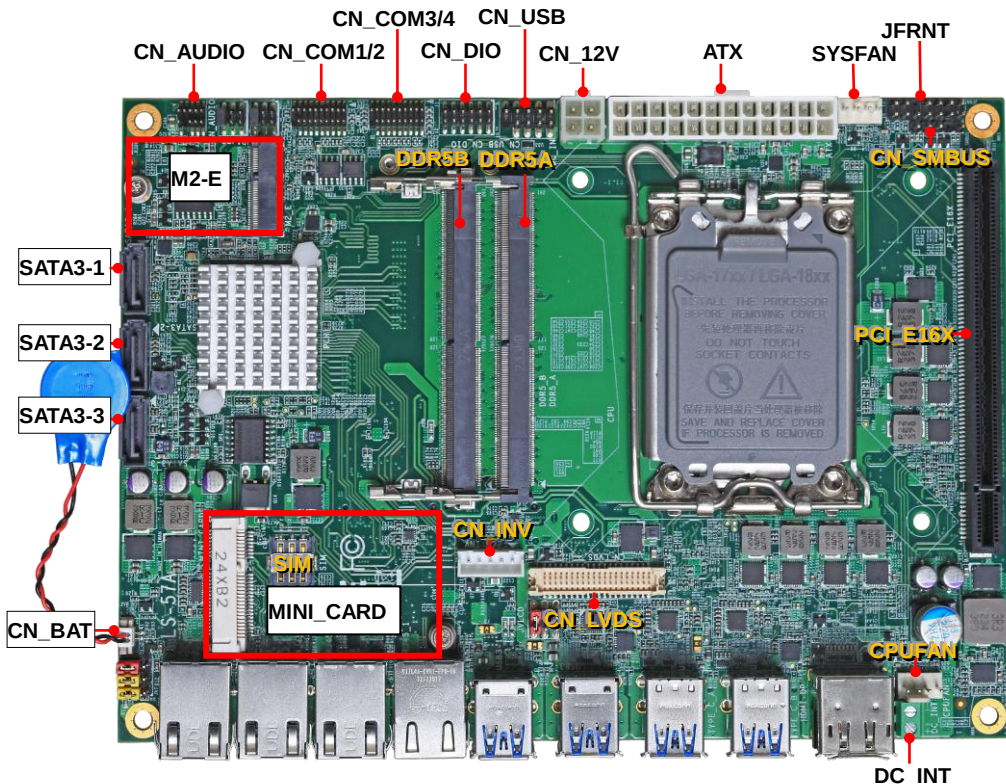
## 1.3 <Block Diagram>



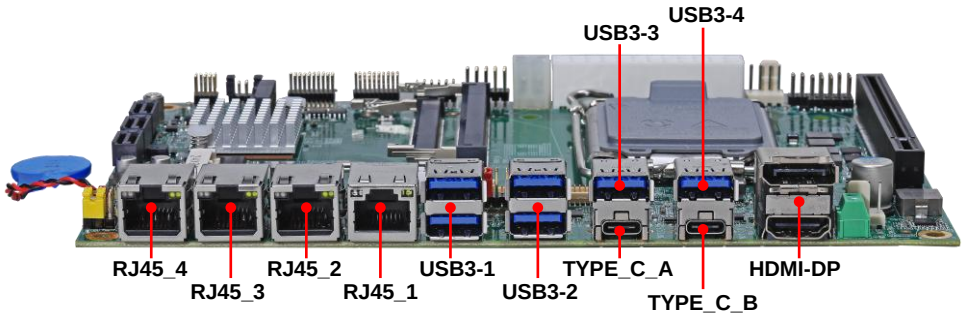


## Chapter 2 <Hardware setup>

### 2.1 <Connector Location and Reference>







## 2.1.1 <Internal connectors list>

| Connector   | Function                                          |
|-------------|---------------------------------------------------|
| DDR5_A/B    | 262-pin DDR5 SO-DIMM slot                         |
| SATA3-1/2/3 | 7-pin SATA3 connector                             |
| CN_AUDIO    | 5 x 2-pin audio pin header                        |
| CN_LVDS     | 20 x 2-pin LVDS connector                         |
| CN_INV      | 5-pin LCD inverter connector                      |
| CN_SMBUS    | 5-pin SMBus connector                             |
| CN_COM 1/2  | 20-pin RS232/RS422/RS485 connector                |
| CN_COM 3/4  | 20-pin RS232 connector                            |
| CN_USB      | 5 x 2-pin USB2.0 pin header                       |
| CN_DIO      | 6 x 2-pin digital I/O connector                   |
| CN_BAT      | 2-pin Battery connector                           |
| CPUFAN      | 4-pin CPU fan connector                           |
| SYSFAN      | 4-pin system fan connector                        |
| JFRNT       | 14-pin front panel switch/indicator connector     |
| PCI_E16X    | 164-pin x16 PCIE slot (Support PCIe Gen5)         |
| MINI_CARD   | 52-pin MiniPCle card slot                         |
| M2_E        | 75-pin M.2 Key E slot                             |
| M2_M        | 75-pin M.2 Key M slot (Support PCIe Gen4 or SATA) |
| ATX         | 24-pin power supply connector                     |
| CN_12V      | 4-pin power input Terminal Block                  |
| DC_INT      | 2-pin power input Terminal Block                  |
| SIMM        | 6-pin socket                                      |

---

## 2.1.2 <External connectors list>

| Connector  | Function                                  |
|------------|-------------------------------------------|
| HDMI-DP    | DisplayPort and HDMI dual layer connector |
| USB3-1/2   | 2 x USB3.2 Gen2 connector                 |
| USB3-3     | 1 x USB3.2 Gen2 connector                 |
| USB3-4     | 1 x USB3.2 Gen1 connector                 |
| RJ45-1     | RJ45 connector (I219-LM)                  |
| RJ45-2/3/4 | RJ45 connector (I226-LM)                  |
| Type C-A/B | Support USB3.2 Gen2 or DP                 |

## 2.2 <CPU and Memory Setup>

### 2.2.1 <CPU installation>

LS-57A has a LGA1700 CPU socket onboard; please check following steps to install the processor properly.

**Attention If LS-57A needs RMA please keep CPU socket cover on the CPU Socket.**  
**Warning If CPU Socket internal Pin damage We could not provide warranty.**

[LGA 1700 Install manual from Intel](#)

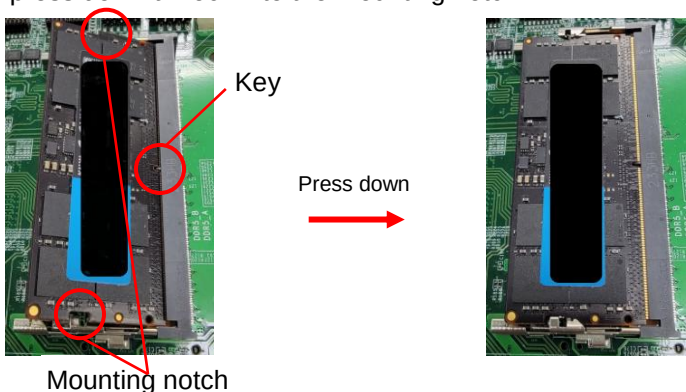
[LGA 1700 Install video from Intel](#)

### 2.2.2 <Memory Setup>

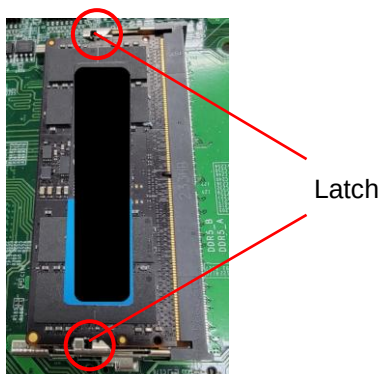
LS-57A has 262-pin DDR5 SO-DIMM support up to 64GB of memory capacity and 1.1 Voltage. Only Non-ECC memory is supported.

**In the process, the board must be powered off.**

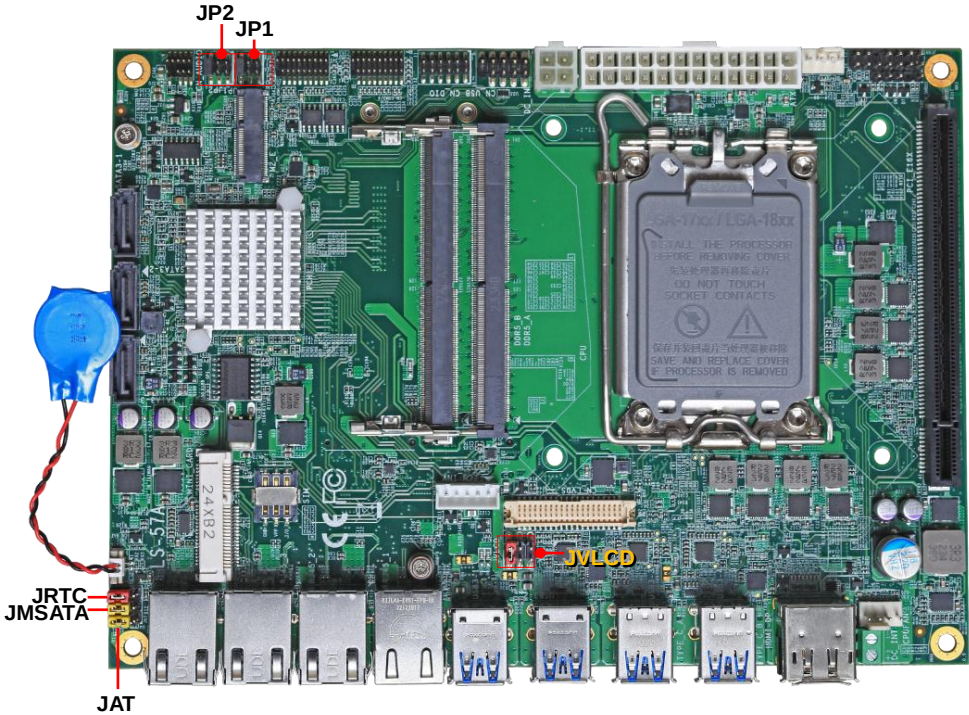
1. Put the memory tilt into the slot. Note the Memory notch key aligned slot key.
2. Then press down till lock into the mounting notch.



3. To remove the memory, push outward on both sides of the latch.



## 2.3 <Jumper Location and Reference>



### 2.3.1 <Jumper list>

| Jumper | Function                         |
|--------|----------------------------------|
| JAT    | Power mode select                |
| JRTC   | CMOS Normal/Clear Setting        |
| JVLCD  | Panel Voltage Setting            |
| JMSATA | MiniCard mSATA Setting           |
| JP1    | COM1 Voltage Setting (For Pin 9) |
| JP2    | COM2 Voltage Setting (For Pin 9) |

## 2.3.2 <Clear CMOS and Power on type selection>

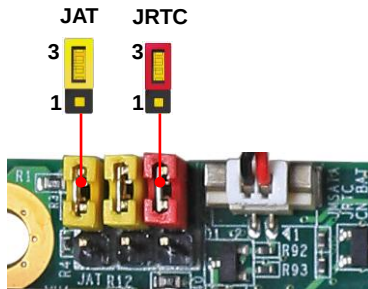
The board's data of CMOS can be setting in BIOS. If the board refuses to boot due to inappropriate CMOS settings, here is how to proceed to clear (reset) the CMOS to its default values.

**JRTC:** Clear CMOS data jumper

| Jumper settings | Function         |
|-----------------|------------------|
| 1-2             | Clear CMOS       |
| 2-3             | Normal (Default) |

**JAT:** AT/ATX mode select jumper

| Jumper settings | Function           |
|-----------------|--------------------|
| 1-2             | AT mode            |
| 2-3             | ATX mode (Default) |

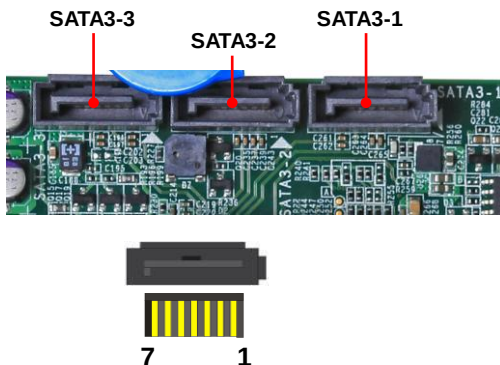


## 2.4 <I/O interface>

### 2.4.1 <Serial ATA interface>

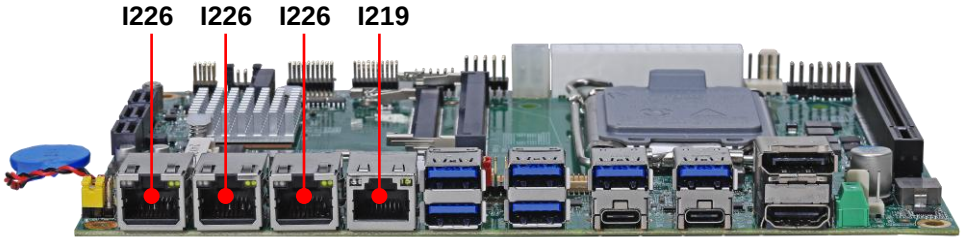
**SATA 1/2/3:** SATA3 7-pin connector

| Pin | Signal |
|-----|--------|
| 1   | GND    |
| 2   | TX+    |
| 3   | TX-    |
| 4   | GND    |
| 5   | RX-    |
| 6   | RX+    |
| 7   | GND    |



## 2.4.2 <Ethernet interface>

The board provide I219-LM PHY Gigabit Ethernet and I226 2.5 Gigabit Ethernet on rear I/O. Intel I226 supports operation at 100/1000/2500 Mb/s data rates, with IEEE802.3 compliance and Wake-On-LAN supported.

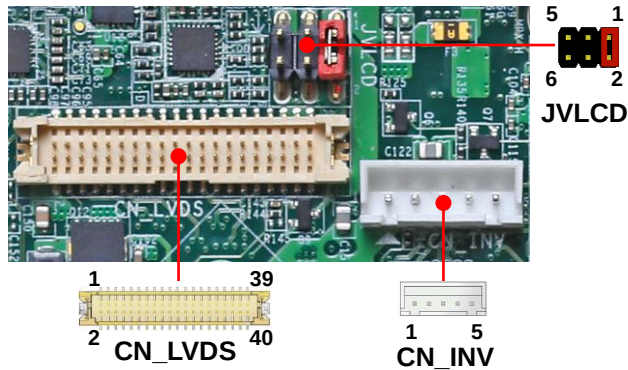


## 2.4.3 <Display interface>

Based on the 12<sup>th</sup> & 13<sup>th</sup> & 14<sup>th</sup> Gen CPU with built-in UHD Graphics 730, DisplayPort up to **4096x2304@60Hz**, HDMI up to **4096x2304@24Hz** on rear IO. About the internal Display, LVDS (PTN3460) up to **1920x1200@60Hz** support 18/24-bit color depth and single/dual channel. About select LCD Panel Type in BIOS, please refer [Appendix B](#).

The built-in HD Graphics support triple display function with clone mode and extended mode.





**CN\_LVDS:** LVDS 40-pin connector (Model: HIROSE DF13-40DP-1.25V compatible)

| Pin | Signal              | Pin | Signal       |
|-----|---------------------|-----|--------------|
| 2   | Set by JVLCD        | 1   | Set by JVLCD |
| 4   | Detect (Active low) | 3   | GND          |
| 6   | A_LVDS_0-           | 5   | B_LVDS_0-    |
| 8   | A_LVDS_0+           | 7   | B_LVDS_0+    |
| 10  | GND                 | 9   | GND          |
| 12  | A_LVDS_1-           | 11  | B_LVDS_1-    |
| 14  | A_LVDS_1+           | 13  | B_LVDS_1+    |
| 16  | GND                 | 15  | GND          |
| 18  | A_LVDS_2-           | 17  | B_LVDS_2-    |
| 20  | A_LVDS_2+           | 19  | B_LVDS_2+    |
| 22  | GND                 | 21  | GND          |
| 24  | A_LVDS_CLK-         | 23  | B_LVDS_3-    |
| 26  | A_LVDS_CLK+         | 25  | B_LVDS_3+    |
| 28  | GND                 | 27  | GND          |
| 30  | A_LVDS_3-           | 29  | B_LVDS_CLK-  |
| 32  | A_LVDS_3+           | 31  | B_LVDS_CLK+  |
| 34  | GND                 | 33  | GND          |
| 36  | LVDS_DDCSCL         | 35  | NC           |
| 38  | LVDS_DDCSDA         | 37  | NC           |
| 40  | NC                  | 39  | NC           |

**Pin4 only need to be connected to GND**



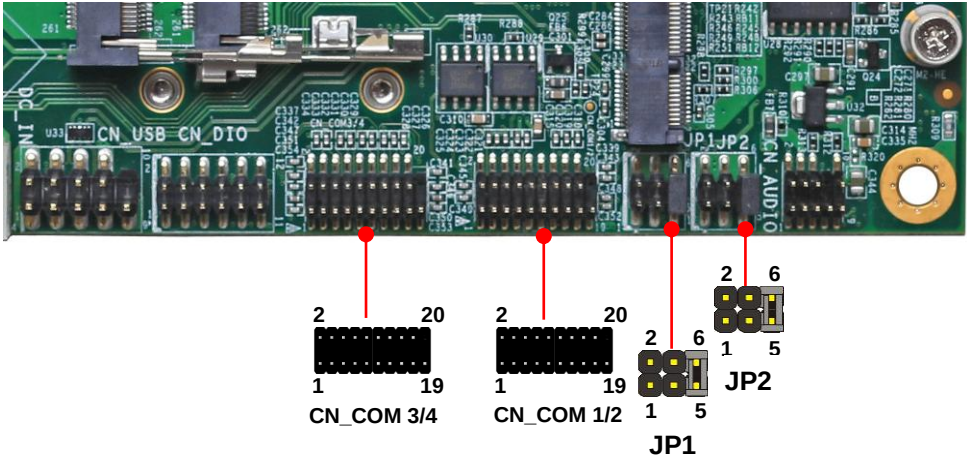
**CN\_INV:** LVDS 5-pin Backlight power connector

| Pin | Signal            |
|-----|-------------------|
| 1   | 12V               |
| 2   | Backlight Control |
| 3   | GND               |
| 4   | GND               |
| 5   | Enable Backlight  |

**JVLCD:** LVDS panel power select jumper

| Jumper settings | Function       |
|-----------------|----------------|
| 1-2             | 3.3V (Default) |
| 3-4             | 5V             |
| 5-6             | 12V            |

## 2.4.4 <Serial Port interface>



**CN\_COM1/2:** RS232/422/485 20-pin header (Pitch 2.54 x 1.27mm)

| Pin | Signal             | Pin | Signal             |
|-----|--------------------|-----|--------------------|
| 1   | DCD1/ 422TX-/ 485- | 2   | RXD1/ 422TX+/ 485+ |
| 3   | TXD1               | 4   | DTR1               |
| 5   | GND                | 6   | DSR1/ 422RX+       |
| 7   | RTS1               | 8   | CTS1/ 422RX-       |
| 9   | Set by JP1         | 10  | NC                 |
| 11  | DCD2/ 422TX-/ 485- | 12  | RXD2/ 422TX+/ 485+ |
| 13  | TXD2               | 14  | DTR2               |
| 15  | GND                | 16  | DSR2/ 422RX+       |
| 17  | RTS2               | 18  | CTS2/ 422RX-       |
| 19  | Set by JP2         | 20  | Key                |

**CN\_COM3/4:** RS232 20-pin header (Pitch 2.54 x 1.27mm)

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | DCD1   | 2   | RXD1   |
| 3   | TXD1   | 4   | DTR1   |
| 5   | GND    | 6   | DSR1   |
| 7   | RTS1   | 8   | CTS1   |
| 9   | RI1    | 10  | NC     |
| 11  | DCD2   | 12  | RXD2   |
| 13  | TXD2   | 14  | DTR2   |
| 15  | GND    | 16  | DSR2   |
| 17  | RTS2   | 18  | CTS2   |
| 19  | RI2    | 20  | Key    |

## COM1 & COM2

RS-232/422/485 can be setting by BIOS.

You can find the setting from

Advanced-> Motherboard Advanced menu-> Super IO configuration->

Serial Port configuration->Interface

| Serial Port Configuration |                       | Item Specific Help |
|---------------------------|-----------------------|--------------------|
| Serial Port 1             | [Enabled]             |                    |
| Base I/O Address:         | [3F8/IRQ4]            |                    |
| Interface                 | [RS232]               |                    |
| Clock Source              | [1.8462 Mhz (115200)] |                    |

**If you want to use RS485, please follow below step before connection. .**

COM1 RTX- Data-: short Pin1& Pin8

COM1 RTX+ Data+: short Pin2& Pin6

COM2 RTX- Data-: short Pin1& Pin8

COM2 RTX+ Data+: short Pin2& Pin6

**JP1, JP2:** COM1, COM2 pin-9 setting

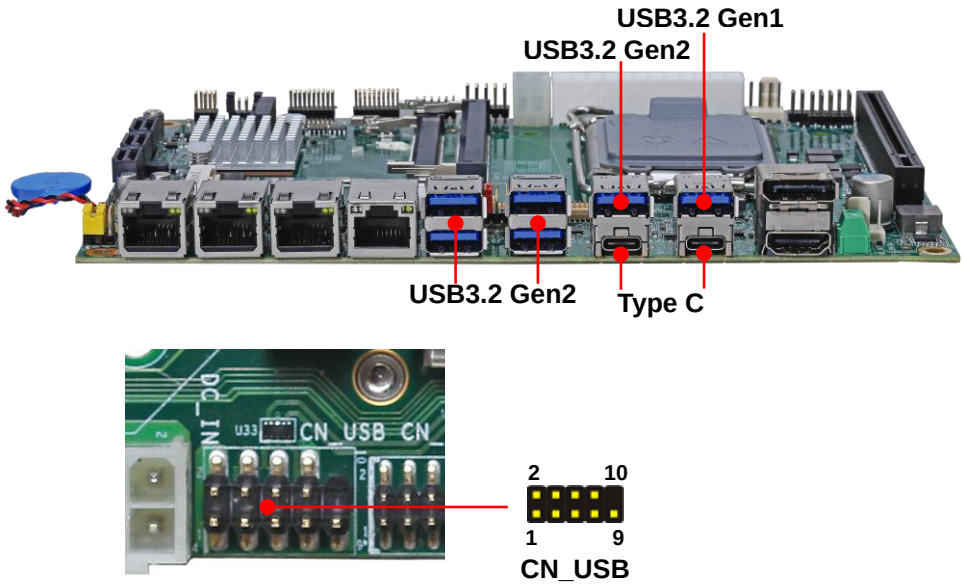
| Jumper settings | Function     |
|-----------------|--------------|
| <b>1-2</b>      | 5V           |
| <b>3-4</b>      | 12V          |
| <b>5-6</b>      | RI (Default) |

Effective patterns of connection:

1-2 / 3-4 / 5-6

Other may cause damage

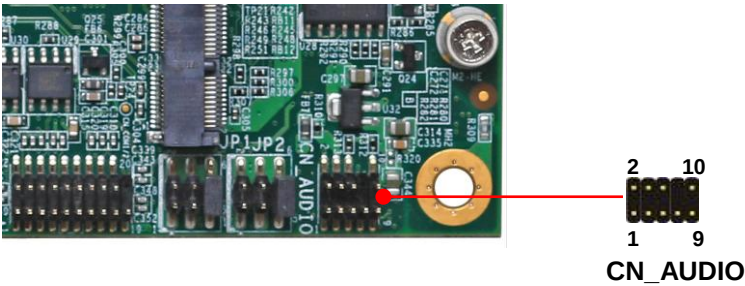
## 2.4.5 <USB interface>



**CN\_USB** : USB2.0 10-pin header (Pitch 2.54 mm)

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | 5VSB   | 2   | 5VSB   |
| 3   | DATA0- | 4   | DATA1- |
| 5   | DATA0+ | 6   | DATA1+ |
| 7   | GND    | 8   | GND    |
| 9   | GND    | 10  | Key    |

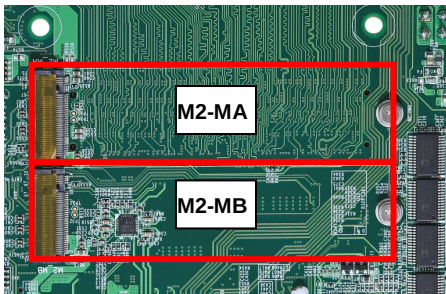
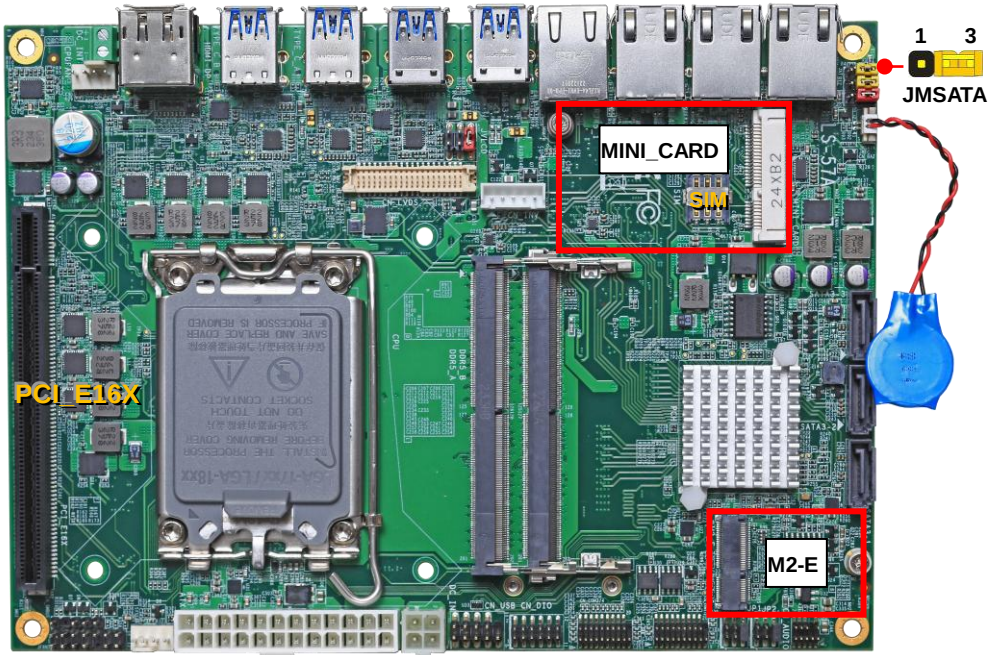
## 2.4.6 <Audio interface>



**CN\_AUDIO:** Front panel audio 10-pin header (Pitch 2.54mm)

| Pin | Signal   | Pin | Signal        |
|-----|----------|-----|---------------|
| 1   | MIC_L    | 2   | GND           |
| 3   | MIC_R    | 4   | NC            |
| 5   | FP_OUT_R | 6   | MIC_DETECT    |
| 7   | SENSE    | 8   | Key           |
| 9   | FP_OUT_L | 10  | FP_OUT_DETECT |

## 2.4.7 <Expansion slot>



MINI\_CARD support mSATA by JMSATA, and connect SIM card

M2-E can support WI-FI and Bluetooth Module

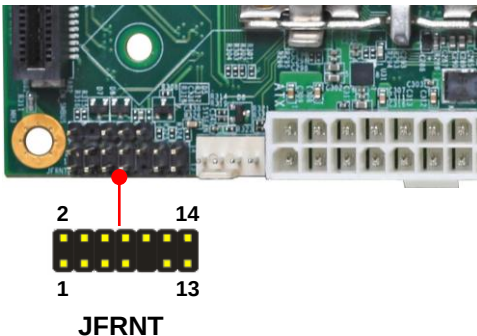
M2-M with 4 x PCIe Gen4 supports NVMe SSD or SATA

PCI\_E16X can support PCIe Gen 5 x16

**JMSATA:** Setting MINI\_CARD to support PCIe/mSATA

| Jumper settings | Function                   |
|-----------------|----------------------------|
| 1-2             | Support mSATA              |
| 2-3             | Normal operation (Default) |

## 2.4.8 <Front panel switch and indicator>

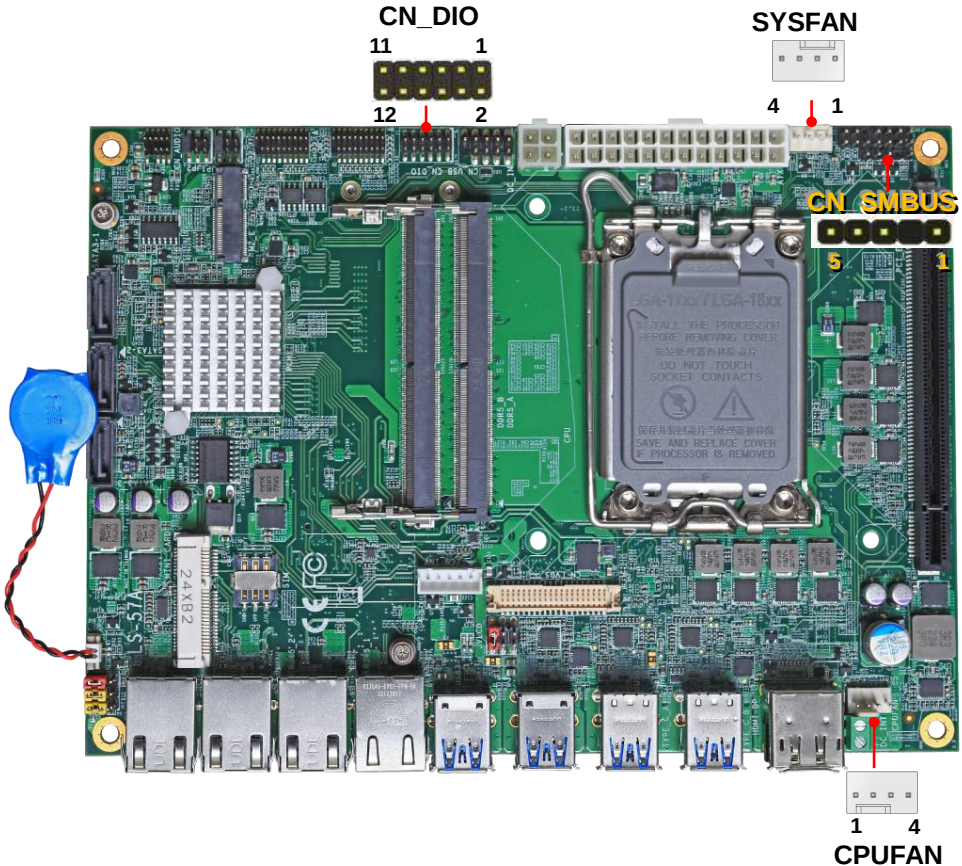


**JFRNT:** Front panel switch and indicator 14-pin header (Pitch 2.54mm)

| Pin | Signal    | Pin | Signal     |
|-----|-----------|-----|------------|
| 1   | HDD_LED+  | 2   | Power_LED+ |
| 3   | HDD_LED-  | 4   | NC         |
| 5   | Reset+    | 6   | Power_LED- |
| 7   | Reset-    | 8   | Speaker+   |
| 9   | Key       | 10  | NC         |
| 11  | Power_ON+ | 12  | NC         |
| 13  | Power_ON- | 14  | Speaker-   |



## 2.4.9 <GPIO and Other interface>



When using GPIO function, please note:

As Output: **Open-drain**, most applications need use an external pull up resistor.  
(If not may cause damage)

As Input: **TTL-level**.

### GPIO DC characteristics (open drain mode)

| Parameter          | SYM      | MIN | TYP | MAX | UNIT          | Conditions             |
|--------------------|----------|-----|-----|-----|---------------|------------------------|
| Input Low Voltage  | $V_{IL}$ |     |     | 0.8 | V             |                        |
| Input High Voltage | $V_{IH}$ | 2.0 |     |     | V             |                        |
| Output Low Voltage | $V_{OL}$ |     |     | 0.4 | V             | $I_{OL} = 12\text{mA}$ |
| Input High Leakage | $I_{LH}$ |     |     | +10 | $\mu\text{A}$ | $V_{IN} = 3.3\text{V}$ |
| Input Low Leakage  | $I_{LL}$ |     |     | -10 | $\mu\text{A}$ | $V_{IN} = 0\text{V}$   |

Please refer to [Appendix E](#) to program the configuration register

**CN\_DIO:** GPIO 12-pin header (Pitch 2.00mm)

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | GND    | 2   | GND    |
| 3   | GP40   | 4   | GP44   |
| 5   | GP41   | 6   | GP45   |
| 7   | GP42   | 8   | GP46   |
| 9   | GP43   | 10  | GP47   |
| 11  | 5V     | 12  | 12V    |

**CN\_SMBUS:** SMBus 5-pin connector (Pitch 2.54mm)

| Pin    | 1  | 2  | 3      | 4      | 5   |
|--------|----|----|--------|--------|-----|
| Signal | 5V | NC | SMBDAT | SMBCLK | GND |

**CPUFAN:** CPU cooler fan 4-pin connector

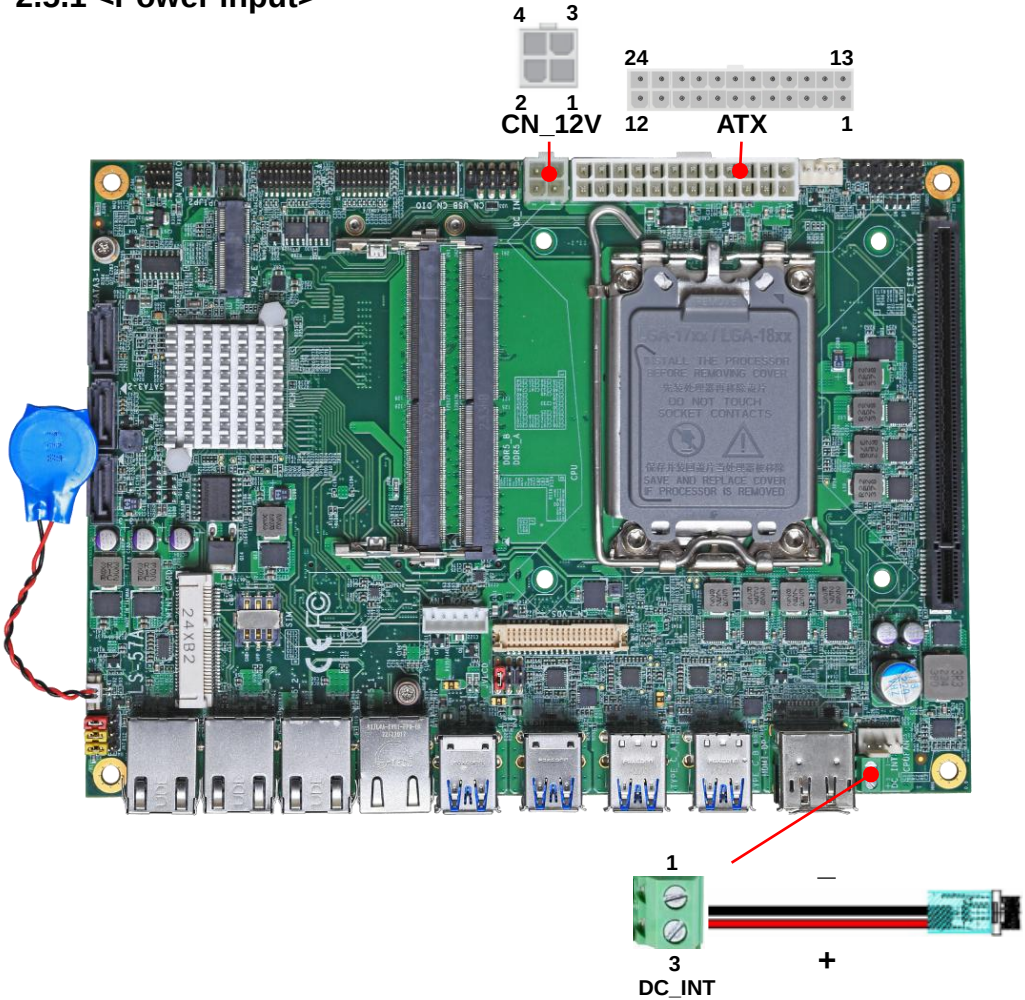
| Pin    | 1   | 2   | 3      | 4       |
|--------|-----|-----|--------|---------|
| Signal | GND | 12V | Sensor | Control |

**SYSFAN:** System cooler fan 4-pin connector

| Pin    | 1   | 2   | 3      | 4       |
|--------|-----|-----|--------|---------|
| Signal | GND | 12V | Sensor | Control |

## 2.5 <Power supply>

### 2.5.1 <Power input>



If the CPU TDP than 45W, please use CN\_12V & ATX power

CN\_12V: ATX12V 4-pin connector

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | GND    | 2   | GND    |
| 3   | 12V    | 4   | 12V    |

**ATX:** main power 24-pin connector

(It also can become Output when DC-INT be used)

| Pin | Signal   | Pin | Signal |
|-----|----------|-----|--------|
| 1   | 3.3V     | 13  | 3.3V   |
| 2   | 3.3V     | 14  | NC     |
| 3   | GND      | 15  | GND    |
| 4   | 5V       | 16  | -PSON  |
| 5   | GND      | 17  | GND    |
| 6   | 5V       | 18  | GND    |
| 7   | GND      | 19  | GND    |
| 8   | Power_OK | 20  | NC     |
| 9   | 5VSB     | 21  | 5V     |
| 10  | 12V      | 22  | 5V     |
| 11  | 12V      | 23  | 5V     |
| 12  | 3.3V     | 24  | GND    |

**Attention: When DC-INT had power supplied, the ATX become output!**

**The DC\_INT and CN\_12V & ATX do not use at the same time, it will certainly cause damage.**

**DC\_INT:** Terminal block 2-pin power connector

| Pin | Signal | Pin | Signal         |
|-----|--------|-----|----------------|
| 1   | GND    | 3   | DC input 9~28V |

# Appendix A <Flash BIOS>

## A.1 <Flash tool>

The board is based on Phoenix BIOS and can be updated easily by the BIOS auto flash tool. You can download the tool online at the address below:

[FPT Tool](#)

The tool's file name is "FPT", it's the utility that can write the data into the BIOS flash chip and update the BIOS.

## A.2 <Flash BIOS process>

1. Extract the zip file (re-flash tool and BIOS file) to root of the USB flash drive.
2. Insert your USB flash drive in USB port of the board and power on the system.
3. Press F5 in the Phoenix Logo screen
4. Click the Internal Shell, then input the "fs0:" command to switch to the root of the USB flash drive.
5. Type the " fpt -savemac -f xxx.bin" command to start flash BIOS processes. ( xxx.bin means the BIOS file that you want to update)
6. When it finished all update processes, restart the system.

```

UEFI Interactive Shell v2.2
EDK II
UEFI v2.70 (Phoenix Technologies Ltd., 0x12345678)
Mapping table
FS0: Alias(s) :HD0p0b::BLK1:
    PciRoot(0x0)/Pci(0x14,0x0)/USB(0xF,0x0)/HD(1,GPT,C88627CA-4DD0-443C-B57C-965C9767287B,0x800,0x3947303)
FS1: Alias(s) :HD1b::BLK3:
    PciRoot(0x0)/Pci(0xE,0x0)/NvMe(0x1,03-12-04-00-00-3E-69-24)/HD(1,GPT,FC7D92D0-5901-4BB4-B862-417B361798AC,0x800,0x3200
0)
    BLK0: Alias(s) :
        PciRoot(0x0)/Pci(0x14,0x0)/USB(0xF,0x0)
    BLK2: Alias(s) :
        PciRoot(0x0)/Pci(0xE,0x0)/NvMe(0x1,03-12-04-00-00-3E-69-24)
    BLK7: Alias(s) :
        PciRoot(0x0)/Pci(0xE,0x0)/NvMe(0x2,04-12-04-00-00-3E-69-24)
    BLK4: Alias(s) :
        PciRoot(0x0)/Pci(0xE,0x0)/NvMe(0x1,03-12-04-00-00-3E-69-24)/HD(2,GPT,03602963-A321-4529-A295-076CF6748D24,0x32800,0x80
00)
    BLK5: Alias(s) :
        PciRoot(0x0)/Pci(0xE,0x0)/NvMe(0x1,03-12-04-00-00-3E-69-24)/HD(3,GPT,7043D5DE-C8A7-45EA-B25F-8CDD2FDC016D,0x36800,0x1B
DEA28D)
    BLK6: Alias(s) :
        PciRoot(0x0)/Pci(0xE,0x0)/NvMe(0x1,03-12-04-00-00-3E-69-24)/HD(4,GPT,E12B4413-6F65-4A2B-A7B3-D48626789E88,0x1BE25000,0
xFE800)
Press ESC in 1 seconds to skip startup.nsh or any other key to continue.
Shell>
Shell> fs0:
FS0:\> fpt -savemac -f 6715.bin_

```

## Appendix B <LCD Panel Type select>

According your panel, it needs to select the correct resolution in the BIOS. If there is no fit your panel type, please feedback for us to make OEM model.

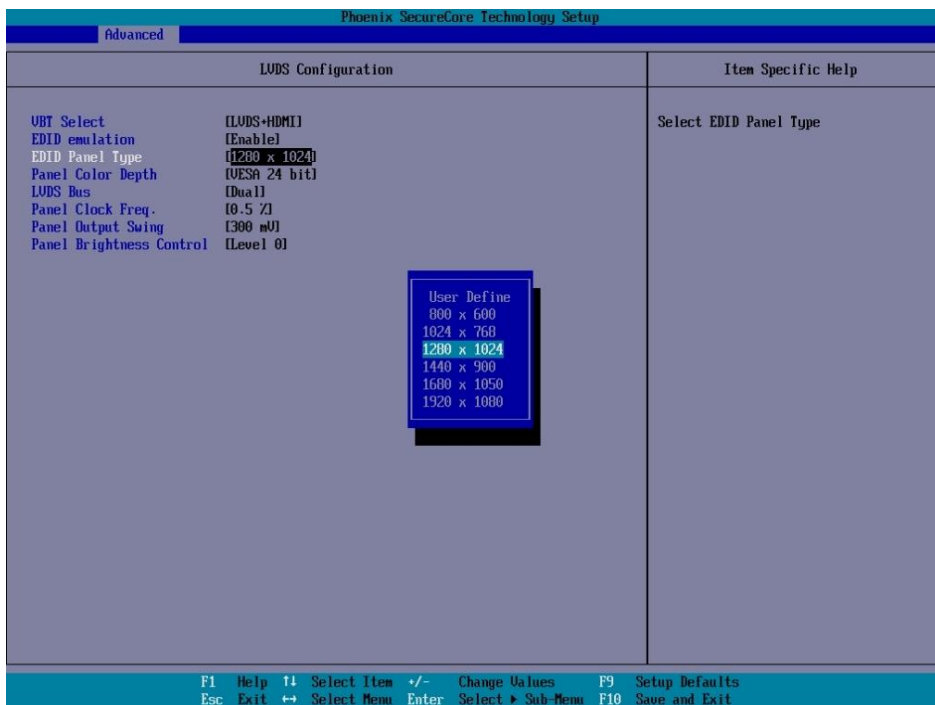
Find the setting from

Advanced->Motherboard Advanced menu->LVDS Configuration

**EDID Panel type:** There are 7 resolutions in LCD Panel Type, if your panel is not in the list, please contact [tech@commell.com.tw](mailto:tech@commell.com.tw)

**LVDS Bus:** Select Single / Dual channel

**Panel Color Depth:** Select VESA 24 bit / JEIDA 24 bit / VESA and JEIDA 18 bit



## Appendix C <Programmable Watch Dog Timer>

The watchdog timer makes the system auto-reset while it stops to work for a period. The integrated watchdog timer can be setup as system reset mode by program. You can select Timer setting in the BIOS, after setting the time options, the system will reset according to the period of your selection.

Find the setting from

Advanced→Motherboard Advanced Menu->Power Advanced menu->

Watch dog timer select





## Program sample

Watchdog timer setup as system reset with 5 second of timeout

```
-o 4E 87      ;enter configuration
-o 4E 87
-o 4E 07
-o 4F 08      ;select Logical Device
-o 4E 30
-o 4F 01      ; activate WDTO# function
-o 4E F0
-o 4F 00      ;set "00" is second mode, set "08" is minute mode
-o 4E F1
-o 4F 05      ;00h: Timeout Disable
                ;01h: Timeout occurs after 1 minute only
                ;02h: Timeout occurs after 2 second/minute
                ;03h: Timeout occurs after 3 second/minute
                ;
                ;FFh: Timeout occurs after 255 second/minute
                (The deviation is approx. 1 second.)
```

For further information, please refer to Nuvoton NCT6126D datasheet

## Appendix D <Hardware Monitor>

Find the setting from

Advanced-> Motherboard Advanced menu-> Super IO configuration->

→Hardware Monitor

| Advanced           |            |
|--------------------|------------|
| Hardware Monitor   |            |
| System Temperature | [31 C ]    |
| PECI Temperature   | [31 C ]    |
| System Fan Speed   | [0 RPM]    |
| CPU Fan Speed      | [4530 RPM] |
| Battery 3V (VBAT)  | [2.976 V]  |
| CPU VCCORE         | [1.312 V]  |
| 12V                | [12.030 V] |
| 5V                 | [5.040 V]  |
| 3.3V               | [3.312 V]  |

## Appendix E <Programmable GPIO>

The GPIO can be programmed with the MS-DOS debug program using simple IN/OUT commands.

| GPIO | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|---|---|---|---|---|---|---|---|
| bit  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

-o 4E 87           ;enter configuration  
-o 4E 87  
-o 4E 07  
-o 4F 07           ;select Logical Device  
-o 4E 30  
-o 4F 18           ;activate GPIO function (The board use GPIO4)  
-o 4E F0  
-o 4F XX           ;set "01" GPIO as input, set "00" GPIO as output  
-o 4E F1  
-o 4F XX           ;if set GPIO as output, this register's value can be set "00~ FF"

Optional

-o 4E F2  
-o 4F XX           ;set "01", the respective bit are inverted (Both input and output)  
                  ;set "00", the respective bit are normal

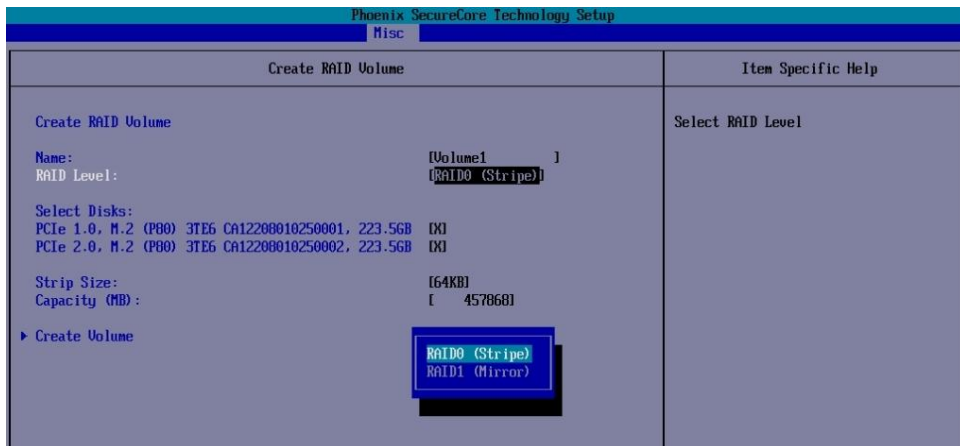
For further information, please refer to Nuvoton NCT6126D datasheet

## Appendix F <RAID Setting>

When use RAID function, it need to enter the BIOS set RAID mode first.

Advanced → Intel Advanced menu → SA Configuration → VMD Configuration→

1. Find VMD controller, and set to enable
2. Set “Map this Root port under VMD” to enable.
3. Set “Intel Optane memory to disabled
4. Press F10 to save.
5. In Misc page, you can find Intel® Rapid Storage Technology,
6. You can see “Create RAID Volume”, and then choose two disks to create.



## Contact information

Any advice or comment about our products and service, or anything we can help you please don't hesitate to contact with us. We will do our best to support you for your products, projects and business.

### Taiwan Commate Computer Inc.

|                |                                                                                                                                                                        |
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| <b>TEL</b>     | +886-2-26963909                                                                                                                                                        |
| <b>Website</b> | <a href="http://www.commell.com.tw">www.commell.com.tw</a>                                                                                                             |
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