

# **SKD70 Motherboard**

## **User Manual**

## Chapter 1 Product Introduction

### 1.1 Main Information

Based on Intel PCH B150 or H110, the SKD70 is mini-ITX motherboard, supporting Intel Skylake-S and Kabylake-S processors.

### 1.2 Specification

**Platform:** PCH B150 (or H110) + Skylake-S/KabyLake-S CPU.

**Memory:** 2 x SO-DIMM DDR4slots up to memory of 32GB, supports dual channel.

**Graphics:** Integrated graphics processor, supports 1 x HDMI1.4, 1 x DP1.2, 1 x DP1.3 (optional).

**Storage:** 2 x SATA3.0 connector, 1 x M.2 Key B, supporting 2242 SSD.

**USB:** 4 x USB3.0 (at the rear panel), 2 x USB2.0 (at the rear panel), 1 x USB2.0 (vertical standard connector), 2 x USB2.0 (by 2.0mm headers).

**LAN:** 3 x Gigabit LAN(intel i211).

**Audio:** HD Audio Codec Chip, 1 x Line-out and 1 x Mic-in at the rear panel, 1 x Line-in at the rear panel(optional), 1 x Line-out, Mic-in by header at front panel, 1 x Amplifier by internal header to connect passive speaker.

**I/O:** 4 x RS232 (Optional feature: COM1/2 with power supply of 5V or 12V), 1 x RS485.

**Expansion slots:** 1 x M.2 Key E (Type 2230, supports WIFI card),

1 x PCIE 1X slot,

1 x PCIE 16X slot.

**Other interfaces:** 8 x GPIO by internal header, 1 x LPT by internal header,

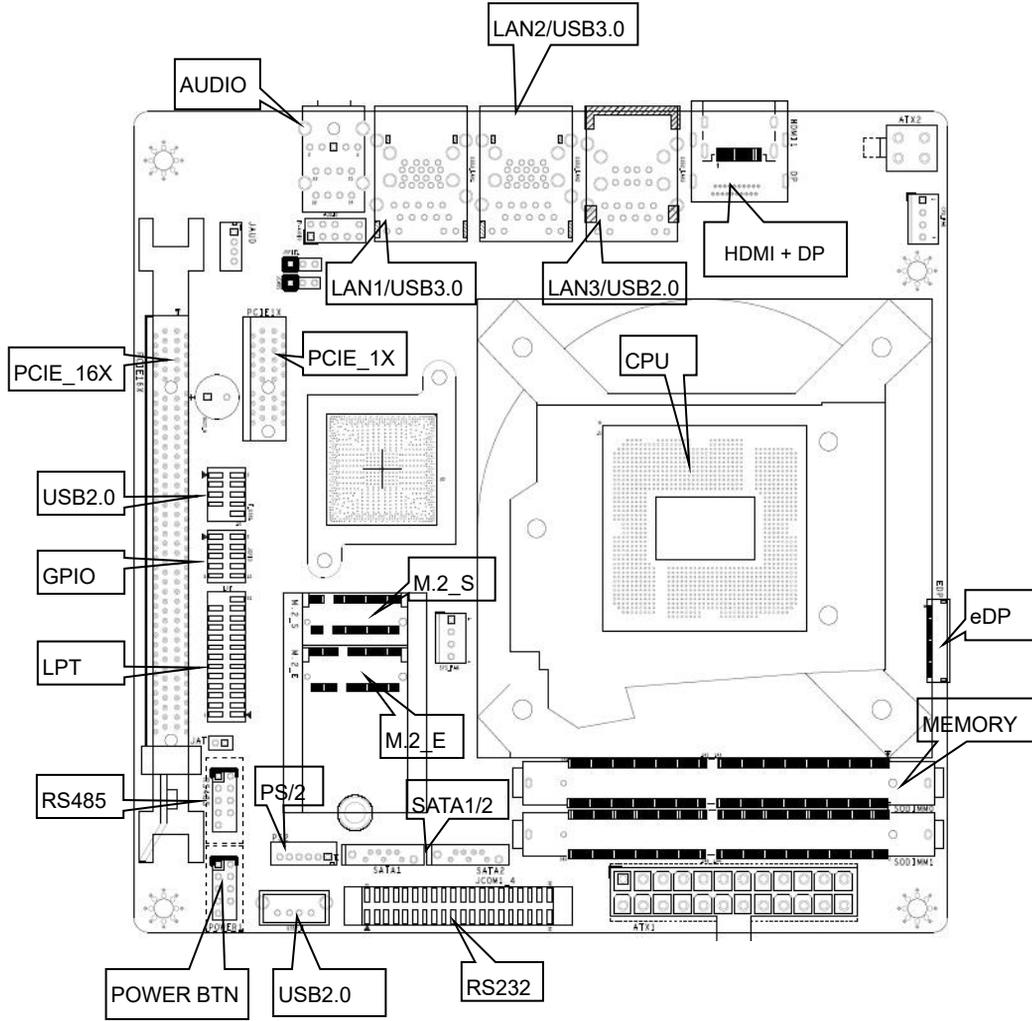
1 x PS/2 (KB/MS) by internal header.

**Dimension:** 170mm x 170mm.

**Power supply:** ATX\_24PIN + ATX\_12V auxiliary power supply (2×2).

**Operating temperature:** -40℃- 60℃.

### 1.3 Motherboard Overview



## Chapter 2 Hardware

### 2.1 Jumper Setup

Set jumpers according to your needs before installing hardware.

Tips about how to identify the first header of jumpers and interfaces: 1. Observe the mark beside plugs, the first header is usually marked by “1” or bold line or triangular symbol; 2. The first header is the square pad of pads on the back.

### 2.2 System Memory Slots

2 x SO-DIMM DDR4 slots up to memory of 32GB, dual channel.

### 2.3 Display Interfaces

1 x HDMI1.4,

1 x DP1.2,

1 x eDP1.3(optional, 2 LANE).

#### eDP:

Pin	Signal	Pin	Signal
1	BL_VCC	16	AUX_N
2	BL_VCC	17	AUX_P
3	BL_VCC	18	GND
4	BL_VCC	19	LANEOP
5	BL_PWM	20	LANEON
6	BL_EN	21	GND
7	GND	22	LANE1P
8	GND	23	LANE1N
9	GND	24	GND
10	GND	25	NC
11	HPD	26	NC
12	GND	27	GND
13	LCD_VCC	28	NC
14	LCD_VCC	29	NC
15	GND	30	GND

## 2.4 Storage

2 x SATA3.0, 1 x M.2 Key B for 2242 SSD.

## 2.5 USB

4 x USB3.0, 2 x USB2.0, 1 x vertical USB2.0.

The USB2.0 at rear panel are powered by 5V Standby voltage, and they can wake up computer by using the connected USB devices when computer is at turn off mode (power still connected) or sleep mode. They provide 5V/500mA power for external devices.

## 2.6 LAN

Intel Gigabit LAN control chip i211, 3 x RJ45, supports Magic packet wake-up and LAN1 supports PXE.

### LED Indicator Light:

LILED (green)	Status	ACTLED (orange)	Status
On	Connected	Flicking	Data

## 2.7 Audio

ALC662 audio control chip, Speaker-out (green), MIC-in (pink), Line-in (blue, optional), JAUD for amplifier and JSPIF for SPDIF.

### FP\_AUDIO:

Signal	Pin		Signal
MIC2-L	1	2	AGND
MIC2-R	3	4	AVCC
FRO-R	5	6	MIC2-JD
F-IO-SEN(AGNG)	7	8	NC
FRO-L	9	10	LIN2-JD

### JAUD:

Pin	Signal
1	L+
2	L-
3	R-
4	R+

**2.8 COM (Silk-print: JCOM1\_4, RS485)**

4 x RS232, optional feature: COM1 and COM2 with power supply of 5V or 12V, 1 x RS485.

**JCOM1\_4:**

Signal	Pin		Signal
DCD#	1	2	RXD
TXD	3	4	DTR#
GND	5	6	DSR#
RTS#	7	8	CTS#
RI#	9	10	NC (can change to 5V or
DCD#	11	12	RXD
TXD	13	14	DTR#
GND	15	16	DSR#
RTS#	17	18	CTS#
RI#	19	20	NC (can change to 5V or
DCD#	21	22	RXD
TXD	23	24	DTR#
GND	25	26	DSR#
RTS#	27	28	CTS#
RI#	29	30	NC
DCD#	31	32	RXD
TXD	33	34	DTR#
GND	35	36	DSR#
RTS#	37	38	CTS#
RI#	39	40	NC

**RS485:**

Signal	Pin		Signal
DATA-	1	2	NC
DATA+	3	4	NC
NC	5	6	NC
NC	7	8	NC
GND	9	10	(blank)

**2.9 LPT(Silk-print: LPT)**

1 x 2\*13PIN(2.0mm), supports devices such as a printer by pallet.

**LPT:**

Signal	Pin		Signal
STB	1	2	AFD

LPT_PPD0	3	4	ERROR
LPT_PPD1	5	6	INIT
LPT_PPD2	7	8	SLIN
LPT_PPD3	9	10	GND
LPT_PPD4	11	12	GND
LPT_PPD5	13	14	GND
LPT_PPD6	15	16	GND
LPT_PPD7	17	18	GND
ACK	19	20	GND
BUSY	21	22	GND
PE	23	24	GND
SLCT	25	26	NC

**2.10 M.2 expansion slot (Silk-print: M.2\_E)**

1 x Type 2230 (Key E) M.2 slot, supports WiFi card and other devices.

**2.11 PCIE slot (Silk-print: PCIE16X, PCIE1X)**

Both slots comply with PCIE Express3.0 specification. PCIE 16X is applied to expand graphic card while PCIE 1X is applied to expand network card and other devices.

**2.12 GPIO (Silk-print: JGPIO)**

1 x 2\*5Pin JGPIO by header (2.0mm distance), 8 programmable I/O.

Signal	Pin		Signal
GPP_A18	1	2	3.3V
GPP_A19	3	4	GPP_C16
GPP_A20	5	6	GPP_C17
GPP_A21	7	8	GPP_C18
GND	9	10	GPP_C19

**2.13 PS/2 (Silk-print: PS2)**

Pin	Signal
1	5V
2	KB_DATA
3	KB_CLK
4	MS_DATA

5	MS_CLK
6	GND

**2.14 Power socket (Silk-print: JPOWER1)**

Front panel interface is to connect function buttons and indicator lights on the case.

**JPOWER1:**

Signal	Pin		Signal
HDD_LED+	1	2	PWR_LED+
HDD_LED-	3	4	PWR_LED-
RSTBTN+	5	6	PWR_ON+
RSTBTN-	7	8	PWR_ON-
NUL	9	10	blank

**2.15 Auto Power On (Silk-print: JAT)**

**JAT:**

Setup	JAT
Close	On

**2.16 CMOS (Silk-print: JCMOS)**

The CMOS is powered by the button battery on the board. Clearing CMOS will permanently clear previous system setting and restore it to factory setting..

- Steps: 1. Turn off the computer and disconnect power,
2. Connect the jumper cap to the 1ST and 2nd pin of JCMOS pin for 10 seco and disconnect,
  3. Turn on the computer, and press <Del> to enter BIOS setting, overload the best default value,
  4. Save and exit.

**JCMOS:**

Setup	Status
Short	Clears CMOS memory, restores to default values.
Disconnect	Normal, default setting

 **Don't clear COMS when the computer is connected to power so as to avoid damage to the board.**