

User Manual

JSL-15 Mini ITX Motherboard



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(Version 0.5)



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Chapter 1 Product Introduction

1.1 Brief Introduction

The JSL15 is an mITX motherboard based on the Intel Jasper Lake Platform.

1.2 Parameters

CPU:

- Intel Celeron N5095A Quad-Cores, four-thread, Base Frequency 2.0GHz Turbo Frequency 2.9GHz, TDP 15W
- Intel Celeron N5095 Quad-Cores, four-thread, Base Frequency 2.0GHz Turbo Frequency 2.9GHz, TDP 15W
- Intel Celeron N5105 Quad-Cores, four-thread, Base Frequency 2.0GHz Turbo Frequency 2.9GHz, TDP 10W
- Intel Celeron N4500 Dual-Cores, two thread, Base Frequency 1.1GHz Turbo Frequency 2.8GHz, TDP 16W

Memory: Single Channel SO-DIMM DDR4-2933MHz up to 16GB

GPU: Integrated Graphics based on CPU, Display via 1xHDMI2.0, 1xVGA (Optional with RS232 COM) 1xLVDS/eDP (header)

Storage: 1 x M.2 Key M for 2280/2242 SATA SSD, 1x Standard SATA3.0

USB: 4xUSB3.2 Gen1 (rear ports), 3xUSB2.0 (header)

Ethernet: 1x Onboard Gigabyte Network Controller RTL 8111H

Audio: High-definition audio chip, supports speaker-out, Mic-in (rear port), Front Line-out, Mic-in (header), and power amplifier (onboard pin, for connecting to the passive speaker)

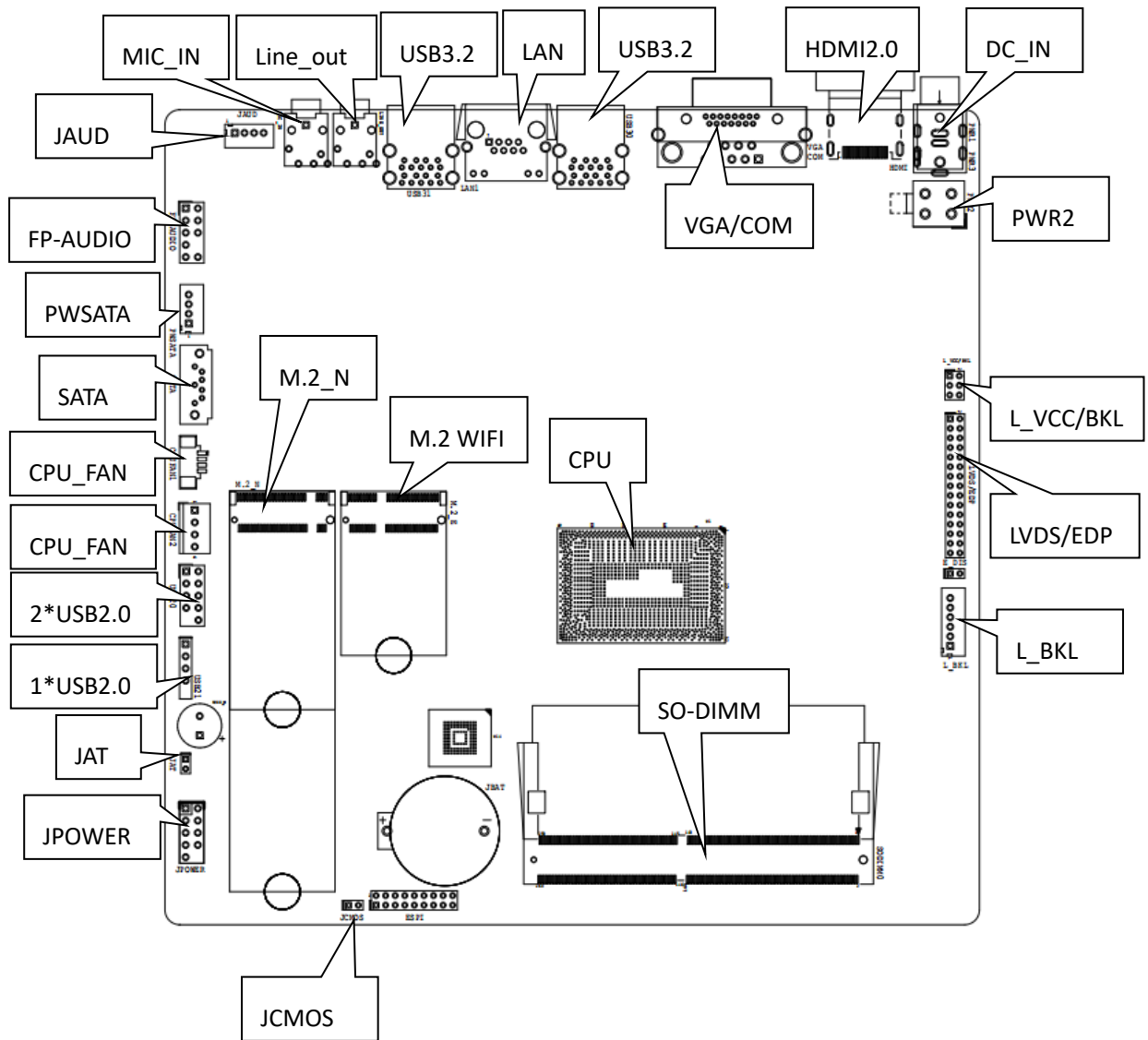
Expansion: 1xM.2 Key E for Wi-Fi and Bluetooth (Type 2230)

Dimension: 170mm x 170mm

Power: 12V/19V DC-in

Working Temperature: -20°C~60°C

1.3 Connector Diagram



Chapter 2 Hardware

2.1 Jumper Setting

Please configure the jumpers according to your requirements before installing the hardware.

How to identify the first header of jumpers and pins: Observe the mark beside the jumper or pins and find the header marked by “1” or bold line or triangular symbol. Or observe the rear panel and the header with a square solder pad is the first header.

2.2 Memory Slots

On-board 1 x SO-DIMM DDR4-2933MHz slots, supporting single channel, maximum capacity 16GB.

2.3 Display Interface

The board is equipped with an HDMI2.0 standard port plus 1x VGA (optional with RS232 COM) and 1x LVDS interface (optional with eDP).

2.4 COM (optional)

The board supports 1xRS232 DB9 COM Port which is optional with VGA.

COM PORT DB9 Definition (screen printing: COM)

Pin	Signal
1	DCD#
2	RXD
3	TXD
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

2.5 LVDS (Screen Printing: LVDS/EDP, L_VCC/BKL, L_BKL)

Dual-Channel 24bit LVDS interface, the power supply of the LVDS screen and backlight are controlled by L_VCC/BKL jumper.

LVDS Data Pin (Screen Printing: LVDS/EDP)

Signal	Pin		Signal
VCC	1	2	VCC
VCC	3	4	GND
GND	5	6	GND
A_DATA0_DN	7	8	A_DATA0_DP
A_DATA1_DN	9	10	A_DATA1_DP
A_DATA2_DN	11	12	A_DATA2_DP
GND	13	14	GND
A_CLK_DN	15	16	A_CLK_DP
A_DATA3_DN	17	18	A_DATA3_DP
B_DATA0_DN	19	20	B_DATA0_DP
B_DATA1_DN	21	22	B_DATA1_DP
B_DATA2_DN	23	24	B_DATA2_DP
GND	25	26	GND
B_CLK_DN	27	28	B_CLK_DP
B_DATA3_DN	29	30	B_DATA3_DP

Display Backlight Brightness Adjustment Pin (Screen Printing: L_BKL)

Pin	Signal
1	GND
2	GND
3	LCD_BKL_ADJ
4	LCD_BKL_ON
5	12V/19V

6	12V/19V
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Display Power Supply Jumper and Backlight Positive/Negative Adjustment (Screen Printing: L_VCC/BKL)

Interface	Setting	Function
1-3	Close	VCC 3.3V
3-5	Close	VCC 5V
2-4	Close	REV (Backlight control reverse)
4-6	Close	STD (Backlight control standard)

2.6 eDP optional (Screen Printing: LVDS/EDP, L_VCC/BKL, L_BKL)

As an optional Function, it supports a 2 LANE eDP (1.3) interface, when configured as eDP, the LVDS function is cancelled, and the screen's power supply and backlight adjustment can be controlled by the L_VCC/BKL jumper.

eDP Data Pin (Screen Printing: EDP/LVDS)

Signal	Pin		Signal
VCC	1	2	VCC
VCC	3	4	EDP_HPD
GND	5	6	GND
EDP_AUXN	7	8	EDP_AUXP
N/A	9	10	N/A
EDP_DATA0_P	11	12	EDP_DATA0_N
GND	13	14	GND
N/A	15	16	N/A
EDP_DATA1_P	17	18	EDP_DATA1_N
N/A	19	20	N/A
N/A	21	22	N/A
N/A	23	24	N/A
GND	25	26	GND
N/A	27	28	N/A
N/A	29	30	N/A

Display Backlight Brightness Adjustment Pin (Screen Printing: L_BKL)

Pin	Signal
1	GND
2	GND
3	LCD_BKL_ADJ
4	LCD_BKL_ON
5	12V/19V
6	12V/19V

Display Power Supply Jumper and Backlight Positive/Negative Adjustment (Screen Printing: L_VCC/BKL)

Interface	Setting	Function
1-3	Close	VCC 3.3V
3-5	Close	VCC 5V
2-4	Close	REV (Backlight Control Reverse)
4-6	Close	STD (Backlight Control Standard)

2.7 Storage Interface (Screen Printing: SATA, M.2_N, PWR_SATA)

The board equips one M.2 Key M, supports 2280/2242 SATA SSD, one SATA3.0 Standard Ports, and one disk power supply.

PWR_SATA (Screen Printing: PWR_SATA)

Pin	Signal
1	VCC 5V
2	GND
3	GND
4	NC

2.8 Expansion Slot (Screen Printing: M.2_E)

The board supports one M.2 key E for 2230 Wi-Fi module and Bluetooth.

2.9 USB Interface

The board is equipped with 4xUSB3.2 Gen1 rear ports, 3xUSB2.0 onboard Pin.

USB Pin (Screen Printing: USB20)

Signal	Pin		Signal
VCC 5V	1	2	VCC 5V
USB DATA-	3	4	USB DATA-
USB DATA+	5	6	USB DATA+
GND	7	8	GND
NC	9	10	(N/A)

USB Pin (Screen Printing: USB21)

Pin	Signal
1	VCC 5V
2	USB DATA-
3	USB DATA+
4	GND

2.10 LAN

High-performance Gigabyte Ethernet controlling RTL 8111H, with 1 x RJ45 interface. Supporting Magic packet wake up, PXE network boot.

LED Status Indicators:

LINK_LED (Green) Status	Function	ACT_LED (Orange) Status	Function
Always on	Network Connected	Blinking	Data transfer

2.11 Audio Interface (Screen Printing: FP_AUDIO, JAUD)

ALC662 Audio Chip installed. The green interface is for audio output (Line-out), The pink interface is for Mic input (Mic-in). The JAUD Pin is for the power amplifier.

FP_AUDIO (Screen Printing: 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 (Screen Printing: JAUD)

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

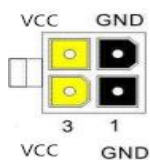
2.12 Board Power Supply (Screen Printing: PWR1, PWR2)

The board supports a 12V/19V DC-in power adapter or ATX supplementary (2x2PIN) for power supply.

PWR1: 12V DC-in power socket



PWR2: ATX 12V supplementary power supply socket (2x2PIN)



2.13 Switch Panel Pin (Screen Printing: JPOWER1)

The front control panel interfaces are to connect the functional buttons and indicators on the front panel.

JPOWER1 (Screen Printing: 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-

NC	9	10	(N/A)
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2.14 CPU FAN Socket (Screen Printing: CPU_FAN1, CPU_FAN2)

The board provides a CPU Fan socket for cooling, default 5V power supply (12V Optional). Note: for the fan socket, only one of CPU_FAN1 and CPU_FAN2 can be used.

CPU_FAN1 (Screen Printing: CPU_FAN1)

Pin	Signal
1	VCC
2	GND
3	TAC
4	CTL

CPU_FAN2 (Screen Printing: CPU_FAN2)

Pin	Signal
1	GND
2	VCC
3	TAC
4	CTL

2.15 Hardware Auto Start (Screen Printing: JAT)

JAT (Screen Printing: JAT)

Setting	JAT
Close	Hardware Auto Start

Please note that this jumper function is similar to the " State After G3" function in BIOS. When the latter is set to S0 State, the device will also start automatically after power is connected.

2.16 CMOS Clearance/Retention (Screen Printing: JCMOS)

CMOS is powered by onboard button batteries. Clearing CMOS will permanently remove the previous system settings and restore the board to the original (factory settings) system settings.

Step 1: Turn off the PC and disconnect the power adapter.

Step 2: Use the jumper cap to connect the 1st and 2nd header of CLR_CMOS for about 10

seconds, then disconnect.

Step 3: When restarting the device, press the button to enter the BIOS, load the optimal default value, save, and exit the settings.

COMS (Screen Printing: CLR_CMOS)

Pin	Setting	Function
1-2	Close	Clear COMS



Please do not clear COMS when the PC is connected to power in case of any board damages.