CoreIPC

ITX67U User Manual

Issue 3.1

CoreIPC

www.CoreIPC.com

© 2026 CoreIPC. All Rights Reserved.

Security Guidance

Copyright Statement

© 2026 CoreIPC.All rights reserved.
All trademarks and names mentioned in this user manual are the property of their respective registered companies.

Disclaimer

- This user manual is protected by copyright, and all content herein is the property of CoreIPC.
- CoreIPC reserves the right to modify the product specifications or related information mentioned in this user manual.
- Any modifications or changes to the product specifications or related information mentioned in this user manual will be made without prior notice.
- The contents of this user manual may not be reproduced, modified, reprinted, distributed, or published in any form without prior written permission from CoreIPC.

- To help you use the CoreIPC motherboard, please read the [User Manual] carefully.
- For product-related information, please be sure to read these safety instructions carefully.
- Identifying the Product Version
  You can find the version of this motherboard labeled [Issue:X.X] on the motherboard itself. X.X represents a number; for example, a label reading [Issue1.0] indicates that the version of this motherboard is 1.0. Please note the product version when updating the motherboard's BIOS or drivers, or when referring to other technical documentation.

Basic Safety Tips

1. Before using this product, please be sure to read the product manual carefully.
2. Any cards not yet ready for installation should be stored in anti-static bags.
3. Before removing the board from the antistatic bag, place your hand on a grounded metal object for a moment (such as 10 seconds) to discharge any static electricity from your body and hands.
4. When handling circuit boards, you must wear anti-static gloves and make it a habit to touch only the edges.
5. To prevent electric shock or damage to the product, be sure to turn off the AC power before inserting, removing, or reconfiguring the board.
6. Before moving a board or the entire unit, you must first turn off the AC power.
7. For complete systems, be sure to turn off the AC power before adding or removing any boards.
8. Before connecting or disconnecting any device, you must first turn off the AC power.
9. To avoid unnecessary damage to the product caused by frequent power cycles, wait at least 30 seconds after turning it off before turning it back on.

Ordering Information

No.	Model	CPU Model	Core	Freq.	Memory	HDMI	VGA	LVDS	EDP	LAN	USB	PS2	LPT	COM/485	POWER
1	ITX67U-L26-3865U VER3.1	3865U	2	1.8G	2*DDR4	1	1	1	/	2	8	1	1	6 / 2	12V
2	ITX67U-L26-6300U VER3.1	I5-6300U	2	2.4G	2*DDR4	1	1	1	/	2	8	1	1	6 / 2	12V
3	ITX67U-L26-7200U VER3.1	I5-7200U	2	2.5G	2*DDR4	1	1	1	/	2	8	1	1	6 / 2	12V
4	ITX67U-L26-6660U VER3.1	I7-6660U	2	2.6G	2*DDR4	1	1	1	/	2	8	1	1	6 / 2	12V
5	ITX67U-L26-8250U VER3.1	I5-8250U	4	1.6G	2*DDR4	1	1	1	/	2	8	1	1	6 / 2	12V
6	ITX67U-L26-8130U VER3.1	I3-8130U	2	2.2G	2*DDR4	1	1	1	/	2	8	1	1	6 / 2	12V

CoreIPC

© 2026 CoreIPC. All Rights Reserved.

1. Product Description

ITX67U is an industrial motherboard from CoreIPC's ITX series, supporting the complete range of Skylake-U and Kaby Lake-U processors.

The main features of the ITX67U motherboard are as follows:

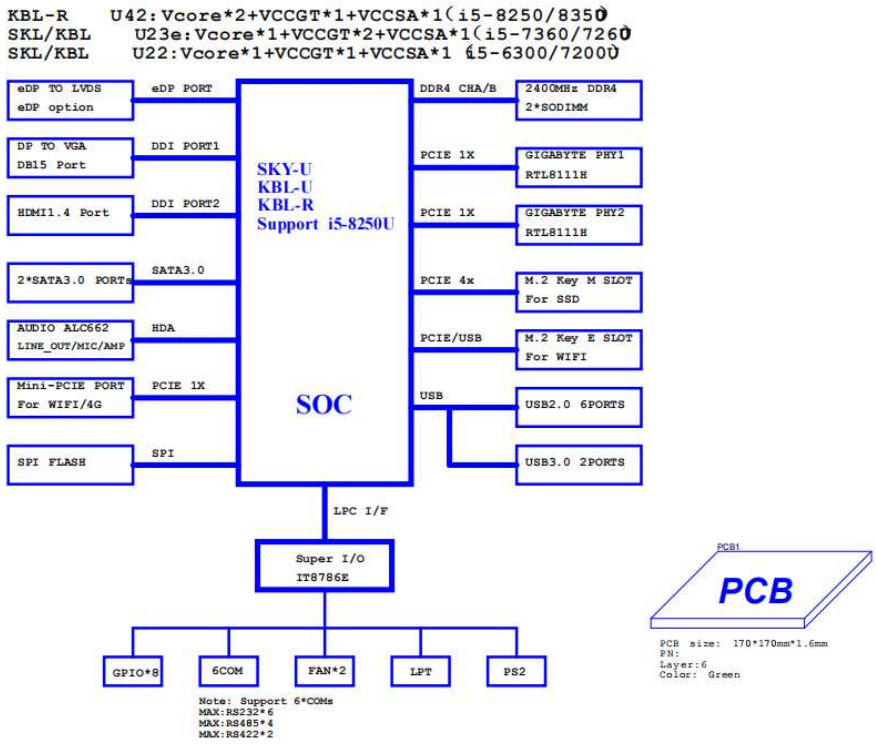
- Supports Skylake-U and Kaby Lake-U Celeron, Pentium, and Intel® Core™ i3/i5/i7 processors.
- Supports dual-channel DDR4 2133/2400MHz 1.2V SO-DIMM memory, with a maximum capacity of 64GB.
- Supports multiple display outputs, including VGA, DP, HDMI, LVDS, and eDP.
- Supports two Gigabit Ethernet ports (single LAN option available).
- Provides one M.2 Key-E slot for Wi-Fi and Bluetooth expansion.
- Provides one M.2 Key-M storage slot with adaptive support for SATA or PCIe interfaces.
- Provides one mSATA slot, supporting mSATA storage or 4G module by default, with optional support for Wi-Fi/4G expansion.
- Supports up to eight USB ports.
- Integrates six RS232 serial ports, with two RS485 ports supported by default and optional configurations for four RS485 ports or two RS422 ports.
- Equipped with a dual ball-bearing intelligent fan to ensure long-term and stable system operation.
- Supports AT/ATX power mode switching and 12V DC power input.

Note:

- Use Skylake-U (not SkyLake-U) and Kaby Lake-U as the official Intel platform naming.
- Use Intel® Core™ i3/i5/i7 rather than Core®I3/I5/I7 for standard technical documentation.
- For a user manual, "motherboard" is appropriate; "mainboard" is less common in industrial computer documentation.

© 2026 CoreIPC. All Rights Reserved.

2. Motherboard Frame Diagram



© 2026 CoreIPC. All Rights Reserved.

3. Motherboard Detailed Specifications

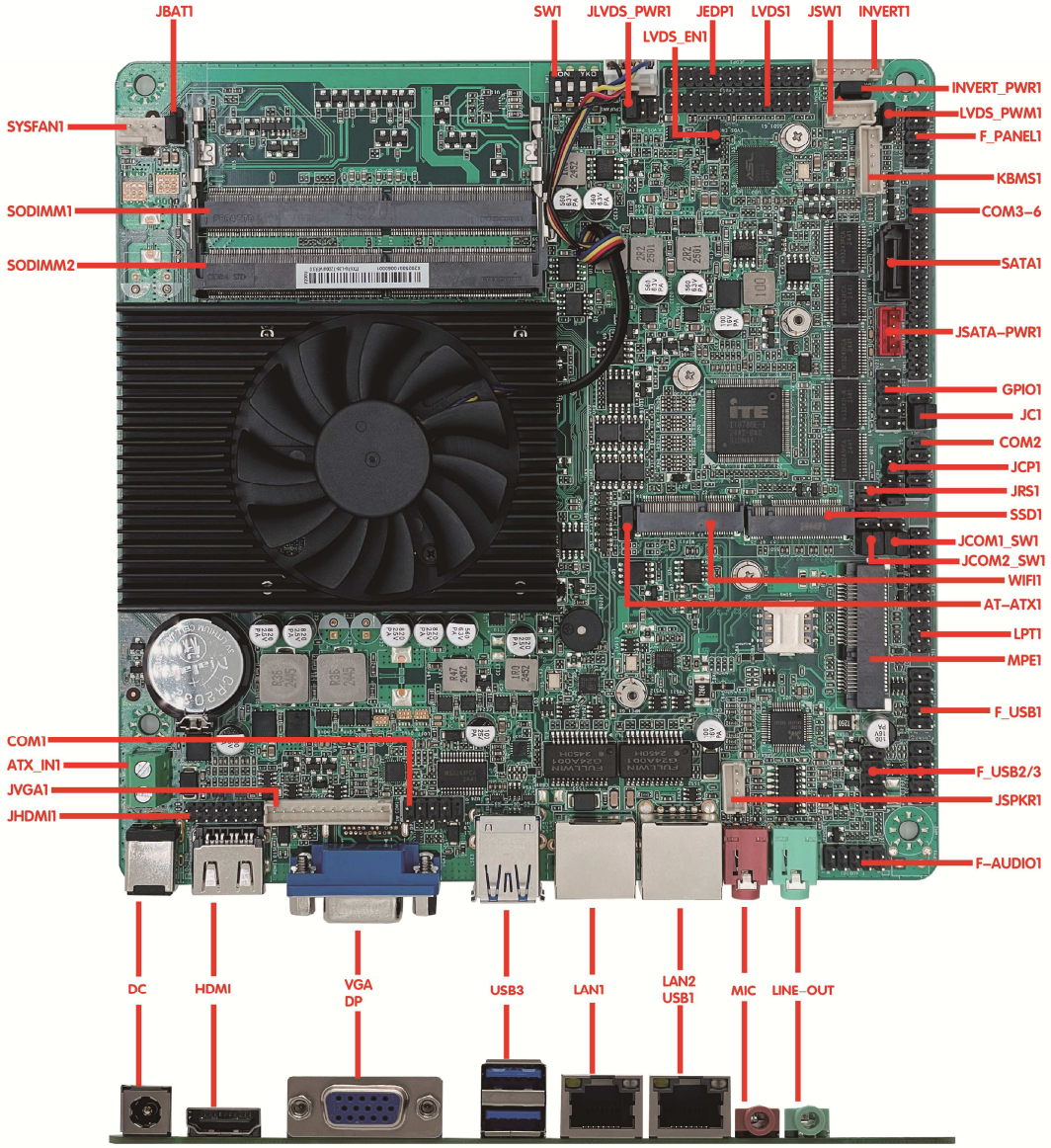
Item	Description
CPU	Supports Intel® Skylake-U and Kaby Lake-U low-power Pentium®, Celeron®, and Core™ i3/i5/i7 processors
Memory	2 × SO-DIMM memory slots, supporting dual-channel DDR4 2133/2400MHz memory, up to 64GB. The supported memory frequency depends on the installed CPU model
Display	Integrated Intel® HD Graphics 540/610/620/650 (depending on the installed CPU model)
	1 × VGA or DP port (supporting 4K@60Hz), 1 × HDMI port (supporting 4K@30Hz), and 1 × LVDS or eDP interface (LVDS by default)
	Supports synchronous/asynchronous display via VGA or DP, HDMI, and LVDS or eDP interfaces
Network	2 × Realtek RTL8111H Gigabit Ethernet controllers (single LAN option available), supporting Wake-on-LAN and PXE boot
Storage	1 × 7-pin SATA 3.0 storage interface, supporting a data transfer rate of up to 6Gbps
	1 × M.2 Key-M 2280/2242 slot, supporting adaptive M.2 PCIe and SATA storage devices
Audio	Onboard Realtek ALC897 7.1-channel high-definition audio codec, supporting MIC/Line-out and 2-channel amplifier output (5W per channel at 2Ω)
Expansion Slot	1 × Mini PCIe slot (supporting mSATA and 4G modules by default; the Mini PCIe interface can be hardware-configured for Wi-Fi and 4G modules)
	1 × M.2 Key-E slot, supporting Wi-Fi modules
Rear Panel I/O Ports	1 × HDMI display port, supporting 4K@30Hz
	1 × VGA display port (selectable with 4K@60Hz DP port; VGA is the default option)
	2 × USB 2.0 ports (selectable with RJ45 ports)
	2 × USB 3.0 ports
	2 × RJ45 Gigabit Ethernet ports (LAN2 shared with USB 2.0 port; RJ45 or USB 2.0 selectable)
	1 × Line-out jack (green) and 1 × MIC jack (pink)
	1 × 12V DC power input connector
Built-in I/O interfaces	1 × JHDMI header (2 × 8-pin, same signal as HDMI1)
	1 × JVGA header (1 × 12-pin, same signal as DB15)
	1 × LVDS header (2 × 15-pin, supporting dual-channel 24-bit LVDS; selectable with eDP interface, LVDS by default)
	1 × LCD backlight power connector (1 × 6-pin)
	1 × eDP header (2 × 15-pin, shared with LVDS interface; optional)
	3 × USB 2.0 headers (2 × 5-pin; dual-LAN configuration supports up to 6 additional USB 2.0 ports, single-LAN configuration supports up to 4 additional USB 2.0 ports)
	1 × Front audio header (2 × 5-pin)

© 2026 CorelPC. All Rights Reserved.

	1 × Amplifier header (1 × 4-pin)
	6 × COM ports (COM1/COM2 support RS485; Pin 9 of COM1/COM2 provides power output; optional configuration as 2 × serial ports)
	1 × LPT header
	1 × PS/2 header (1 × 6-pin)
	1 × HDD power connector (1 × 4-pin)
	1 × 4-pin ATX power connector
	1 × Front panel header (2 × 5-pin) for power switch and LED indicators
Fan Connector	1 × 4-pin CPU smart fan header, 1 × 4-pin system smart fan header
GPIO	Supports 4-bit GPIO input/output
BIOS	64Mb Flash ROM
Watchdog	Supports hardware reset function (256 levels, 0–255 seconds)
Secure Encryption	Reserved onboard TPM footprint
OS	Windows 7/Windows 10/Linux
Power type	Powered by 12V DC input
Operating temperature	-10℃～60℃
Storage temperature	-20℃～70℃
Operating humidity	5%–95% relative humidity, non-condensing
Dimensions	170mm x 170mm

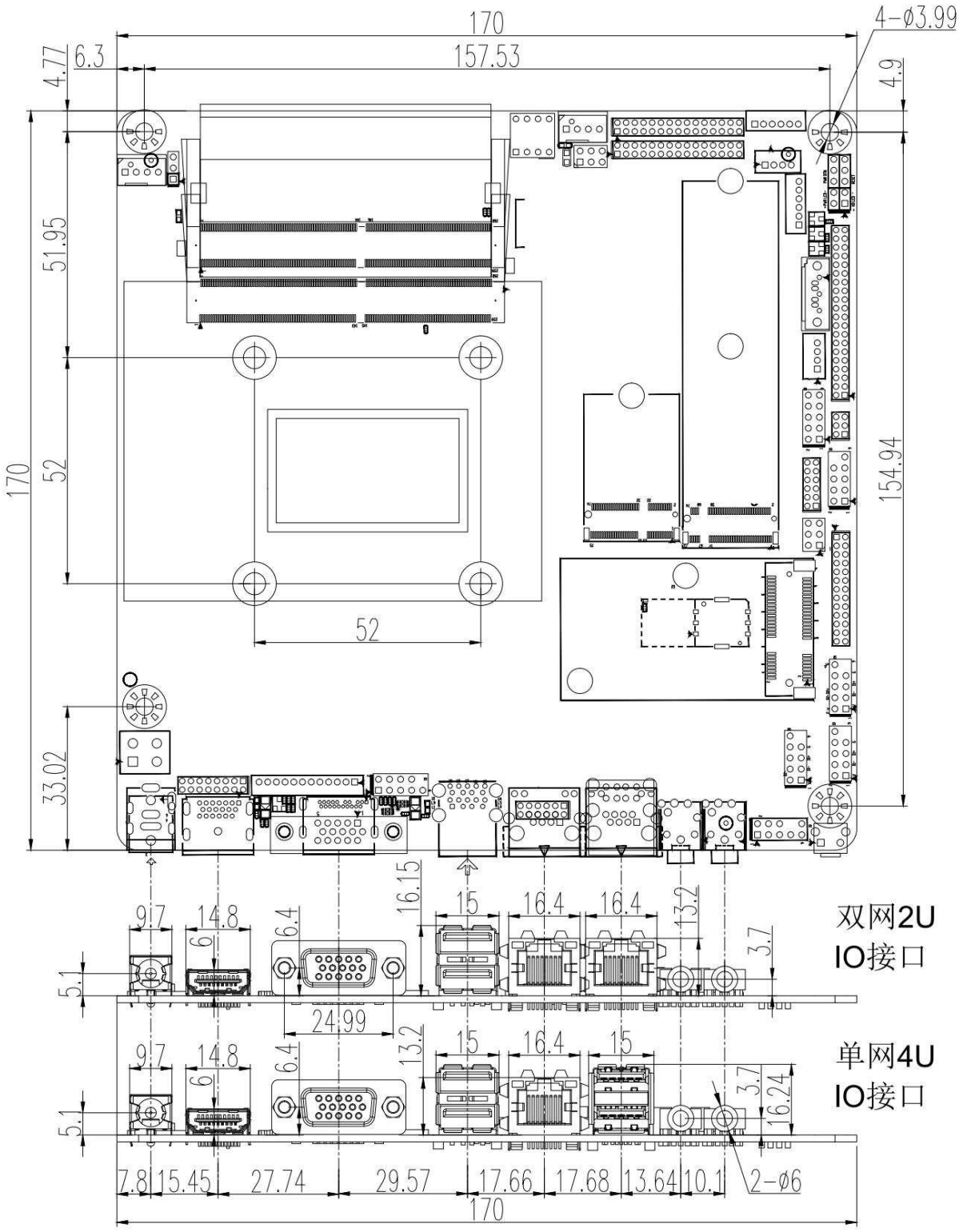
CoreIPC

© 2026 CoreIPC. All Rights Reserved.



Note: The above image is the front view of the ITX67U-L26 VER3.1. The appearance and layout of other models may differ.

© 2026 CoreIPC. All Rights Reserved.



The above diagram illustrates the I/O interface layout of the ITX67U VER3.1 series motherboards.

© 2026 CoreIPC. All Rights Reserved.

4. Motherboard installation

Safety Precautions

- Before installation, do not remove or damage the serial number label, distributor warranty sticker, or other identification labels on the motherboard. Otherwise, the warranty period may not be properly verified.
- Before installing or removing the motherboard or any other hardware devices, make sure the power is turned off and disconnect the power cord from the power outlet.
- When installing other hardware devices into the motherboard connectors, ensure that all connectors are properly aligned and securely connected.
- When handling the motherboard, avoid touching the metal contacts or exposed conductive parts to prevent short circuits.
- When handling the motherboard, CPU, or memory modules, it is recommended to wear an anti-static wrist strap. If an anti-static wrist strap is unavailable, make sure your hands are dry and touch a grounded metal object first to discharge static electricity.
- Before installation, place the motherboard in an anti-static mat or anti-static bag.
- Before disconnecting any power connector from the motherboard, make sure the power supply is switched off.
- Before turning on the system, make sure the power supply voltage is set to the correct local voltage standard.
- Before powering on the system, ensure that all hardware cables and power cables are properly connected.
- Do not allow screws to come into contact with the motherboard traces or components to avoid damage or malfunction.
- Make sure no screws or metal objects are left on the motherboard or inside the chassis.
- Do not place the computer system on an unstable surface.
- Do not place the computer system in an environment with excessively high temperatures.
- Turning on the power during installation may cause damage to the motherboard, other devices, or personal injury.
- If you are unfamiliar with hardware installation procedures or encounter any technical issues while using this product, consult qualified technical personnel.

Memory installation

The motherboard provides one 260-pin DDR4 SO-DIMM memory slot.

Before you begin installing the memory, please note the following information：

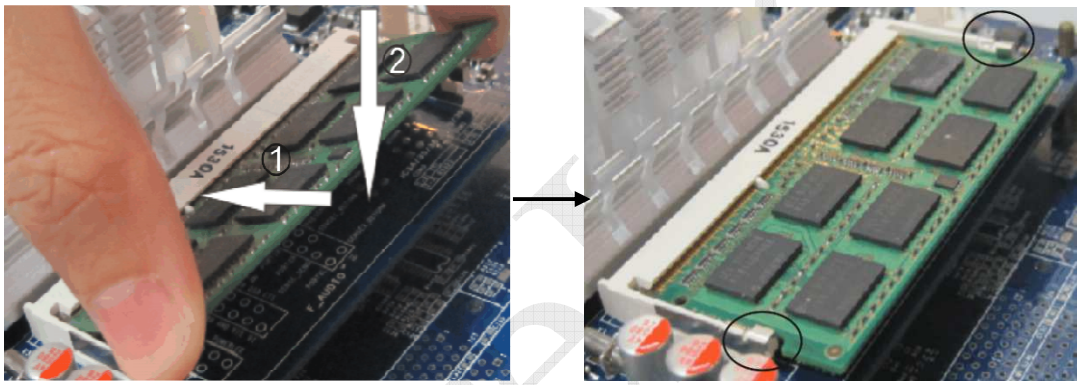
1) Please first confirm that the memory you purchased is compatible with the specifications supported by this motherboard.
2) Before installing or removing memory, please ensure that the computer is powered off to avoid damage.
3) The memory module is designed with a foolproof marking. If you insert it in the wrong direction, the memory module will not be able to be inserted. In this case, please change the insertion direction immediately.

© 2026 CoreIPC. All Rights Reserved.

Install memory:

1) Please turn off the power and unplug the AC power cord before installing or removing the memory.
2) Hold the memory module carefully at both ends, being careful not to touch the metal contacts.
3) Align the gold fingers of the memory module with the memory slot, making sure the gold finger recesses align with the protruding points of the slot.
4) Insert the memory module at a 30-degree angle into the memory slot, then press it down until you hear a "click" sound. This indicates that the memory is successfully installed and ready to use. (Note: Do not press the memory module down too hard to avoid damaging it.)
5) To remove the memory module, push the latches on both ends of the DIMM slot outwards simultaneously, and then remove the memory module.

The installation diagram below is for reference only：



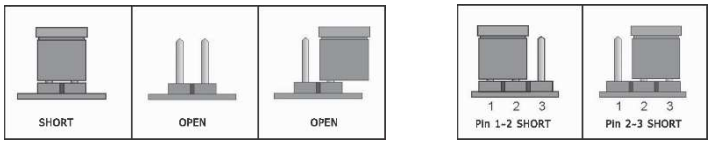
CoreIPC

© 2026 CoreIPC. All Rights Reserved.

5. Jumper settings

Jumper Description

2-pin connector: Inserting the jumper cap into both pins will close (short circuit) it.
3-pin connector: A jumper cap can be inserted into pins 1-2 or pins 2-3 to close (short circuit).



How do I identify the position of pin 1 of a jumper?

1) Please carefully inspect the motherboard. Any pin marked "1" or with a thick white line is pin 1.
2) When examining the pads on the backplate, square pads are typically for pin 1.

Clear CMOS Jumper: The motherboard provides one 1*3PIN JBAT1 connector: CMOS content clear/retain settings (pin pitch: 2.54 mm). The CMOS is powered by a coin cell battery on the board. Clearing the CMOS will permanently erase the previous system configuration and set it to the original (factory settings) system settings. The steps are:

1) Shut down the computer and disconnect the power;
2) Short the JBAT1 2-3 pins for about 5 seconds;
3) Turn on the computer;
4) Press the key prompted on the screen during startup to enter the BIOS settings and reload the optimal default values;
5) Save and exit the settings.

The pin definitions are as follows:

JBAT1 definition：

Functions	JBAT1 settings
Normal working status	1-2Pin
Clear CMOS contents; restore all BIOS settings to factory defaults.	2-3Pin

Power-on function jumper: The motherboard provides one 1*3 AT-ATX1 jumper (pin pitch: 2.54 mm), which can be used to control whether the power is on or off.

AT-ATX1 Definition：

Functions	AT-ATX1 settings
Turn off the call auto-start function	1-2Pin
Enable call auto-start function	2-3Pin

LVDS Enable Jumper:

The motherboard provides one 1 × 3-pin LVDS_EN1 jumper (2.54 mm pitch)**, which allows users to enable or disable the LVDS function through jumper settings.**

LVDS_EN1 Pin Definition:

© 2026 CoreIPC. All Rights Reserved.

Interface	Function	LVDS_EN1 settings
LVDS1	Disable LVDS	1-2Pin
	Enable LVDS	2-3Pin

CoreIPC

© 2026 CoreIPC. All Rights Reserved.

6. Pin definitions

1、The motherboard provides two standard 2 × 5-pin COM headers (2.54 mm pitch).

COM1/COM2 Pin Definitions:

Pin	Signal name	Pin	Signal name
1	DCD-A	2	RXD-B
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

COM1/COM2 Voltage Selection Jumper (2.0 mm pitch), JCP1 Settings::

Interface	Function	JCP1 Settings	Interface	Function	JCP1 Settings
COM1	RI	Pin 1-2 (Default)	COM2	RI	Pin 7-8 (Default)
	5V	3-4Pin		5V	9-10Pin
	12V	5-6Pin		12V	11-12Pin

Note:

- The standard 2-COM version supports **1 × RS485 port**, while the 6-COM version supports **2 × RS485 ports**.
- COM1 and COM2 support **RS232** and can also be configured to support **RS485**.
- COM3 and COM4 require hardware modification to support **RS485**. The RS485 function is available through the **JRS1 header**. Please contact us for confirmation before placing an order.
- COM2 and COM3 require hardware modification to support **RS422**. Please contact us for confirmation before placing an order.

2、The motherboard provides one 2 × 20-pin standard 4-port COM header (2.0 mm pitch).

COM3–COM6 Pin Definitions:

Pin	Signal name	Pin	Signal name
1	COM3_DCD	2	COM3_RXD
3	COM3_TXD	4	COM3_DTR
5	GND	6	COM3_DSR

© 2026 CoreIPC. All Rights Reserved.

7	COM3_RTS	8	COM3_CTS
9	COM3-RI	10	NC
11	COM4_DCD	12	COM4_RXD
13	COM4_TXD	14	COM4_DTR
15	GND	16	COM4_DSR
17	COM4_RTS	18	COM4_CTS
19	COM4-RI	20	NC
21	COM5_DCD	22	COM5_RXD
23	COM5_TXD	24	COM5_DTR
25	GND	26	COM5_DSR
27	COM5_RTS	28	COM5_CTS
29	COM5-RI	30	NC
31	COM6_DCD	32	COM6_RXD
33	COM6_TXD	34	COM6_DTR
35	GND	36	COM6_DSR
37	COM6_RTS	38	COM6_CTS
39	COM6-RI	40	NC

3、COM2 & JCOM3 RS232/RS485 Selection Jumpers

JCOM1 and JCOM2 RS232/RS485 Selection Jumpers:

Interface	Function	JCOM1_SW1 Settings	JC1 Settings	Definition
COM1	RS232	Pin 1-3 and Pin 2-4 (Default)	Pin 1-3 (Default)	COM1 Pin 2: RXD COM1 Pin 3: TXD
	RS485	3-5Pin ,4-6Pin	3-5Pin	COM1 Pin 1: A COM1 Pin 2: B

Interface	Function	JCOM2_SW1 Settings	JC1 Settings	Definition
COM2	RS232	Pin 1-3 and Pin 2-4 (Default)	Pin 2-4 (Default)	COM2 Pin 2: RXD COM2 Pin 3: TXD
	RS485	3-5Pin ,4-6Pin	4-6Pin	COM2 Pin 1: A COM2 Pin 2: B

4、COM3 supports RS232/RS485/RS422 modes, while COM4 supports RS232/RS485 modes.

The RS485 function of COM3/COM4 and the RS422 function of COM3 require hardware modification. The corresponding signals should be connected through the JRS1 header.

© 2026 CoreIPC. All Rights Reserved.

Interface	Function	Note
COM3	RS232	
	RS485	COM3 RS485 signals are available through the JRS1 header. Pin 1: COM A; Pin 2: COM B.
	RS422	COM3 RS422 signals are available through the JRS1 header.
Interface	**Function**	**Note**
COM4	RS232	
	RS485	COM4 RS485 signals are available through the JRS1 header. Pin 3: COM A; Pin 4: COM B.

COM3 and COM4 support RS232 by default. Please contact our sales team if RS485 or RS422 support is required, as hardware modification is needed.

The RS485 connection header (2.54 mm pitch) for COM3 and COM4 is JRS1. The JRS1 pin definition is as follows:

Pin	Signal name	Pin	Signal name
1	TXD+(A3)	2	TXD-(B3)
3	RXD+(A4)	4	RXD-(B4)
5	+5V	6	GND

COM3 and COM4 support RS232 by default. Hardware modification is required to enable RS485 or RS422 support. Please contact our sales team for more information.

5、The motherboard provides one 2 × 13-pin LPT1 print header (2.0 mm pitch).

The LPT1 pin definition is as follows:

Pin	Signal name	Pin	Signal name
1	STB-	2	AFD-
3	PD0	4	ERR-
5	PD1	6	INIT-
7	PD2	8	SLIN-
9	PD3	10	GND
11	PD4	12	GND
13	PD5	14	GND
15	PD6	16	GND
17	PD7	18	GND
19	ACK-	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SLCT	26	NC

6、**The motherboard provides one 1 × 12-pin white JST header JVGA1 (2.0 mm pitch), which carries the same signal as the VGA1 interface.**

JVGA1 Pin Definition:

© 2026 CoreIPC. All Rights Reserved.

Pin	Signal name	Pin	Signal name
1	NC	2	VSYNC
3	HSYNC	4	GND
5	R	6	GND
7	G	8	GND
9	B	10	GND
11	DDC_SDA	12	DDC_SCL

7、The motherboard provides one 2 × 8-pin JHDMI header, which carries the same signal as HDMI1 (2.0 mm pitch).

The JHDMI1 pin definition is as follows:

Pin	Signal name	Pin	Signal name
1	TMDS Data2+	2	SCL
3	TMDS Data2-	4	SDA
5	TMDS Data1+	6	NC
7	TMDS Data1-	8	Hot Plug Detect
9	TMDS Data0+	10	+5V Power
11	TMDS Data0-	12	GND
13	TMDS Clock+	14	GND
15	TMDS Clock-	16	GND

8、The motherboard provides one 2 × 15-pin eDP header (2.0 mm pitch).

The JEDP1 pin definition is as follows:

Pin	Signal name	Pin	Signal name
1	PVDD	2	PVDD
3	NC	4	NC
5	EDP_TX0+	6	EDP_TX0-
7	GND	8	GND
9	EDP_TX1+	10	EDP_TX1-
11	GND	12	GND
13	EDP_TX2+	14	EDP_TX2-
15	GND	16	GND
17	EDP_TX3+	18	EDP_TX3-
19	GND	20	GND
21	EDP_AUX+	22	EDP_AUX-
23	GND	24	HPD_DET
25	BKLT_PWM: Backlight brightness control	26	BKLT_EN: Backlight enable
27	GND	28	GND
29	INVERT_PWR: Backlight power supply	30	INVERT_PWR: Backlight power supply

© 2026 CoreIPC. All Rights Reserved.

9、The motherboard provides one 2 × 15-pin LVDS header (2.0 mm pitch).
The LVDS1 pin definition is as follows:

Pin	Signal name	Pin	Signal name
1	LCDVDD	2	LCDVDD
3	LCDVDD	4	NC
5	GND	6	GND
7	LVDS_A0-	8	LVDS_A0+
9	LVDS_A1-	10	LVDS_A1+
11	LVDS_A2-	12	LVDS_A2+
13	GND	14	GND
15	LVDSA_CLK-	16	LVDSA_CLK+
17	LVDS_A3-	18	LVDS_A3+
19	LVDS_B0-	20	LVDS_B0+
21	LVDS_B1-	22	LVDS_B1+
23	LVDS_B2-	24	LVDS_B2+
25	GND	26	GND
27	LVDSB_CLK-	28	LVDSB_CLK+
29	LVDS_B3-	30	LVDS_B3+

This motherboard provides three LCD panel operating voltage options: 3.3V, 5V, and 12V, as well as 5V and 12V backlight power supply voltage options.

Before using the LVDS interface, please confirm the required operating voltage of the LCD panel. The LCD panel can function properly only when the selected LCD voltage matches the operating voltage of the connected LCD panel. The configuration settings are as follows:

INVERT1 (Backlight Power Connector) Pin Definition:

Pin	Signal name
1	12V/5V(INVERT_PWR1 Setting)
2	12V/5V(INVERT_PWR1 Setting)
3	Backlight Enable
4	Backlight Brightness Control
5	GND
6	GND

INVERT_PWR1 (LCD Backlight Power Supply) Settings:

Interface	Function	INVERT_PWR1 Setting
LVDS1	12V （Default）	1-2Pin
	5V	2-3Pin

JLVDS_PWR1 (LCD Panel Operating Voltage) Settings：

© 2026 CorelPC. All Rights Reserved.

Interface	Function	JLVDS_PWR1 Setting
LVDS1	3.3V （Default）	1-2Pin
	5V	3-4Pin
	12V	5-6pin

The motherboard provides one 1 × 3-pin header for inverting the PWM function of the LVDS1 panel.

The JLVDS_PWM1 jumper settings are as follows:

Interface	Function	LVDS_PWM1 Setting
LVDS1	PWM Positive (High)	1-2Pin
	PWM Inverted (Low)	2-3Pin

JSW1 (LCD Brightness Adjustment Interface) Pin Definition:

Pin	Signal name
1	BLU+: Brightness Increase
2	BLU-: Brightness Decrease
3	Backlight Enable
4	GND

The motherboard provides one SW1 DIP switch for configuring the LVDS resolution. The detailed settings are as follows:

No.	DIP Switch Setting	Resolution / Bit Depth	No.	DIP Switch Setting	Resolution / Bit Depth	No.	DIP Switch Setting	Resolution / Bit Depth
1		800 × 600 / Single 6-bit	2		1024x768 Single 6-bit	3		1280x768 Single 6-bit
4		1280x800 Single 6-bit	5		1280x960 Single 6-bit	6		1280 × 1024 / Dual 8-bit
7		1366*768 Single 6-bit	8		1366 × 768 / Single 8-bit	9		1440x900 Dual 8-bit
10		1024*600 Single	11		1920 × 1080 / Dual 6-bit / 15.6	12		1920 × 1080 / Dual 8-bit /

© 2026 CoreIPC. All Rights Reserved.

		6-bit			inch			21.5 inch
13		1920 × 1080 / Dual 8-bit / 42 inch	14		1280x1024 / Dual 8-bit	15		1280x800 / Single 8-bit
16		1024x768 / Single 8-bit	17			18		

10、The motherboard provides one 2 × 5-pin front audio header (2.54 mm pitch).
The F_AUDIO1 pin definition is as follows:

Pin	Signal name	Pin	Signal name
1	MIC-L	2	GND
3	MIC-R	4	NC
5	Line out-R	6	Sense Return1
7	GND	8	NC
9	Line OUT-L	10	Sense Return2

11、The motherboard provides one 1 × 4-pin amplifier header (2.0 mm pitch).
The JSPKR1 pin definition is as follows:

Pin	Signal name
1	SPKL-
2	SPKL+
3	SPKR-
4	SPKR+

12、The motherboard provides one 1 × 6-pin PS/2 keyboard/mouse header (2.0 mm pitch).
The KBMS1 pin definition is as follows:

Pin	Signal name
1	+5V(standby)
2	KB_DT
3	KB_CK
4	MS_DT
5	MS_CK
6	GND

13、The motherboard provides two 2 × 5-pin USB 2.0 headers (2.54 mm pitch).
F_USB3 and USB1 are mutually exclusive. For motherboards with dual LAN ports, F_USB3 supports USB 2.0 only.
The pin definitions of F_USB1, F_USB2, and F_USB3 are as follows:

Pin	Signal name	Pin	Signal name
1	+5V	2	+5V

© 2026 CoreIPC. All Rights Reserved.

3	Data0-	4	Data1-
5	Data0+	6	Data1+
7	GND	8	GND
9		10	GND

14、The motherboard provides two 1 × 4-pin fan headers. The CPUFAN1 and SYSFAN1 pin definitions are as follows:

Pin	Signal name
1	GND
2	+12V
3	DET
4	PWM

Note: DET: Fan speed pulse output; PWM: Fan speed PWM control.

15、The motherboard provides one 1 × 4-pin red SATA power connector (2.0 mm pitch). The JSATA_PWR1 pin definition is as follows:

Pin	Signal name
1	+12V
2	GND
3	GND
4	+5V

Warning: Please make sure that the Pin 1 position of JSATA_PWR1 is correctly identified before connection. Incorrect connection may damage the storage device. The power cable provided by our company must be used.

16、The motherboard provides one 2 × 5-pin FPANEL1 header (2.54 mm pitch). The chassis power switch, reset switch, HDD LED, and power LED can be connected to this header. The FPANEL1 pin definition is as follows:

Pin	Signal name	Pin	Signal name
1	HDDLED+	2	PWRLED+
3	HDDLED-	4	PWRLED-
5	GND	6	PWRBTN#
7	RESETBTN#	8	GND
9	NC	10	

17、The motherboard provides one 2 × 5-pin GPIO header (2.54 mm pitch). The GPIO1 pin definition is as follows:

Pin	Signal name	Pin	Signal name
1	GND	2	+5V
3	GPO1	4	GPI1
5	GPO2	6	GPI2
7	GPO3	8	GPI3
9	GPO4	10	GPI4

© 2026 CoreIPC. All Rights Reserved.