

CoreIPC

ITX67U

Mini-ITX Industrial Motherboard Datasheet

Intel® Skylake-U / Kaby Lake-U Platform

Document	Datasheet
Model	ITX67U
Issue	3.1
Product Type	Mini-ITX Industrial Motherboard
Website	www.CoreIPC.com

This datasheet is prepared based on ITX67U User Manual Issue 3.1.

1. Product Overview

The ITX67U is a CoreIPC Mini-ITX industrial motherboard supporting Intel® Skylake-U and Kaby Lake-U processors. It integrates dual-channel DDR4 memory, VGA or optional DP, HDMI, LVDS or optional eDP display, up to dual Gigabit Ethernet, SATA and M.2 storage, Mini PCIe and M.2 Key E expansion, multiple USB and serial interfaces, LPT, PS/2, GPIO, audio amplification, and 12 V DC input for industrial and embedded applications.

2. Key Features

- Supports Intel® Skylake-U and Kaby Lake-U Celeron®, Pentium®, and Core™ i3/i5/i7 low-power processors. Ordering Information also lists i5-8250U and i3-8130U variants; confirm the exact CPU/BOM before ordering.
- 2 x SO-DIMM slots supporting dual-channel DDR4-2133/2400 memory, up to 64 GB; supported frequency depends on CPU.
- VGA or optional DisplayPort, HDMI, and LVDS or optional eDP display interfaces; supports synchronous/asynchronous multi-display output.
- Up to 2 x Realtek RTL8111H Gigabit Ethernet ports with Wake-on-LAN and PXE; single-LAN configuration optional.
- Storage includes 1 x SATA 3.0 connector and 1 x M.2 Key M 2280/2242 slot with adaptive PCIe/SATA SSD support.
- 1 x Mini PCIe slot supporting mSATA and 4G by default, with hardware-configurable Wi-Fi/4G support; 1 x M.2 Key E slot for Wi-Fi.
- Supports up to 8 USB ports, including 2 x USB 3.0; rear USB/LAN resources vary by selected LAN configuration.
- Provides up to 6 x COM ports. COM1/COM2 support RS485; COM3/COM4 can optionally support RS485; COM2/COM3 can optionally support RS422.
- Onboard Realtek ALC897 7.1-channel HD audio with Mic-in, Line-out, and 2 x 5 W stereo amplifier output at 2 ohms.
- Mini-ITX 170 x 170 mm; 12 V DC input; CPU/system smart-fan headers; operating temperature -10°C to 60°C.

3. Technical Specifications

Category	Specification
Processor	Intel® Skylake-U / Kaby Lake-U Celeron®, Pentium®, and Core™ i3/i5/i7 low-power processors. Ordering Information also lists i5-8250U and i3-8130U variants.
Memory	2 x SO-DIMM slots; dual-channel DDR4-2133/2400, 1.2 V; up to 64 GB. Supported frequency depends on CPU.
Graphics / Display	Integrated Intel® HD Graphics 540/610/620/650 depending on CPU; 1 x VGA or DP (DP up to 4K @ 60 Hz), 1 x HDMI (up to 4K @ 30 Hz), 1 x LVDS or eDP.
Ethernet	Up to 2 x Realtek RTL8111H Gigabit Ethernet controllers; single-LAN option; Wake-on-LAN and PXE support.
Storage	1 x SATA 3.0 connector, up to 6 Gbps; 1 x M.2 Key M 2280/2242 slot with adaptive PCIe/SATA SSD support.
Audio	Realtek ALC897 7.1-channel HD audio; Mic-in, Line-out, and 2 x 5 W stereo amplifier output at 2 ohms.
Expansion	1 x Mini PCIe slot supporting mSATA/4G by default and hardware-configurable Wi-Fi/4G; 1 x M.2 Key E slot for Wi-Fi.
USB	Up to 8 USB ports; 2 x USB 3.0 plus USB 2.0 interfaces. Rear USB 2.0 and LAN2 are selectable/shared resources.
Serial Ports	Up to 6 x COM. COM1/COM2 support RS232/RS485; COM3 supports optional RS485/RS422; COM4 supports optional RS485; COM5/COM6 support RS232.
Legacy I/O	1 x LPT header; 1 x PS/2 keyboard/mouse header.
GPIO	4-bit GPIO input/output.
TPM	Reserved onboard TPM footprint.
BIOS	64 Mb Flash ROM.
Watchdog	Hardware reset watchdog, 256 levels (0-255 seconds).
OS Support	Windows 7 / Windows 10 / Linux.
Power	12 V DC input; AT/ATX power-mode selection.
Dimensions	170 mm x 170 mm.
Environment	Operating: -10°C to 60°C; Storage: -20°C to 70°C; Humidity: 5%-95% RH, non-condensing.

4. I/O Interface Summary

4.1 Rear Panel I/O

Interface	Description
Display	1 x HDMI; 1 x VGA by default, selectable with optional DisplayPort.
USB	2 x USB 3.0; 2 x rear USB 2.0 depending on LAN configuration.
LAN	Up to 2 x RJ45 Gigabit Ethernet ports; LAN2 shares/selects resources with rear USB 2.0.
Audio	1 x Line-out (green); 1 x Mic-in (pink).
Power	1 x 12 V DC input.

4.2 Internal I/O and Headers

Interface / Header	Description
HDMI	1 x JHDMI 2 x 8-pin header sharing signals with HDMI1.
VGA	1 x JVGA 1 x 12-pin header sharing signals with the DB15 VGA port.
LVDS / eDP	1 x dual-channel 24-bit LVDS header and 1 x optional eDP header; LVDS and eDP are mutually exclusive.
Backlight / Brightness	Panel voltage selectable at 3.3 V / 5 V / 12 V; backlight power selectable at 5 V / 12 V; PWM inversion and brightness control provided.
USB 2.0	3 x USB 2.0 headers are listed in the detailed specification; total internal USB availability depends on LAN configuration.
Serial	2 x standard COM headers plus 1 x 2 x 20-pin four-port header for COM3-COM6.
RS485 / RS422	COM1/COM2 support RS485; COM3/COM4 optional RS485; COM2/COM3 optional RS422; hardware modification required for optional modes.
LPT / PS2	1 x LPT header; 1 x 6-pin PS/2 keyboard/mouse header.
Audio	1 x front-audio header; 1 x 4-pin amplified speaker output header.
Power / Panel	1 x HDD power connector; 1 x 4-pin ATX connector; 1 x front-panel header.
Fan / GPIO	1 x CPU smart-fan header; 1 x system smart-fan header; 1 x GPIO header.

5. Display Support

ITX67U provides VGA or optional DisplayPort, HDMI, and LVDS or optional eDP display interfaces. The detailed specification lists DP up to 4K @ 60 Hz and HDMI up to 4K @ 30 Hz. LVDS and eDP are mutually exclusive, with LVDS populated by default. Panel operating voltage is selectable at 3.3 V / 5 V / 12 V and backlight power at 5 V / 12 V.

Item	Description
Integrated Graphics	Intel® HD Graphics 540/610/620/650 depending on processor.
VGA / DP	VGA by default; optional DisplayPort up to 4K @ 60 Hz; selectable/mutually exclusive.
HDMI	1 x HDMI output, up to 4K @ 30 Hz.
LVDS	1 x dual-channel 24-bit LVDS interface; default configuration.
eDP	Optional; selectable with/mutually exclusive to LVDS.
Multi-display	Supports synchronous/asynchronous display via VGA/DP, HDMI, and LVDS/eDP.

6. Serial Port Configuration

Port / Source	Default / Optional Function
COM1	RS232 default; supports RS485; Pin 9 supports selectable RI / 5 V / 12 V.
COM2	RS232 default; supports RS485; Pin 9 supports selectable RI / 5 V / 12 V; optional RS422 requires hardware modification.
COM3	RS232 default; optional RS485 or RS422 requires hardware modification.
COM4	RS232 default; optional RS485 requires hardware modification.
COM5-COM6	RS232.
Differential Serial	2-COM: 1 x RS485; 6-COM: 2 x RS485. Up to 4 x RS485 / RS422 options require advance confirmation.

7. Power, Cooling and Reliability Functions

Item	Description
Main Power	12 V DC input.
AT / ATX Mode	AT-ATX1 jumper selects automatic power-on behavior.
Cooling	1 x 4-pin CPU smart-fan header and 1 x 4-pin system smart-fan header.
Watchdog	Hardware reset watchdog, 256 levels (0-255 seconds).
Clear CMOS	JBAT1 1 x 3-pin Clear CMOS jumper.
LVDS Enable	LVDS_EN1 jumper enables/disables LVDS.
TPM	Reserved onboard TPM footprint.

8. Mechanical and Environmental Information

Item	Description
Form Factor	Mini-ITX industrial motherboard.
Dimensions	170 mm x 170 mm.
Operating Temperature	-10°C to 60°C.
Storage Temperature	-20°C to 70°C.
Operating Humidity	5%-95% RH, non-condensing.
Power Input	12 V DC.

9. Ordering Information

Model	Description
ITX67U-L26-3865U VER3.1	Celeron® 3865U; 2 cores; 1.8 GHz; 2 x DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; LPT; 6 COM / 2 RS485; 12 V.
ITX67U-L26-6300U VER3.1	Core™ i5-6300U; 2 cores; 2.4 GHz; 2 x DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; LPT; 6 COM / 2 RS485; 12 V.
ITX67U-L26-7200U VER3.1	Core™ i5-7200U; 2 cores; 2.5 GHz; 2 x DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; LPT; 6 COM / 2 RS485; 12 V.
ITX67U-L26-6660U VER3.1	Core™ i7-6660U; 2 cores; 2.6 GHz; 2 x DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; LPT; 6 COM / 2 RS485; 12 V.
ITX67U-L26-8250U VER3.1	Core™ i5-8250U; 4 cores; 1.6 GHz; 2 x DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; LPT; 6 COM / 2 RS485; 12 V.
ITX67U-L26-8130U VER3.1	Core™ i3-8130U; 2 cores; 2.2 GHz; 2 x DDR4; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; LPT; 6 COM / 2 RS485; 12 V.

10. Compliance and Documentation Notes

- Certification and compliance information is not specified in the source manual. Contact CoreIPC for project-specific certification or compliance documentation.
- Memory information is inconsistent in the source manual. Product Description and Detailed Specifications state 2 x DDR4 SO-DIMM slots, dual-channel DDR4-2133/2400, up to 64 GB, while the Memory Installation section states one 260-pin DDR4 SO-DIMM slot. This datasheet follows the detailed specification and recommends confirming the production BOM before ordering.
- Processor/platform information also differs by section. The Product Description states Skylake-U and Kaby Lake-U, while Ordering Information additionally lists Core i5-8250U and i3-8130U variants. Confirm the exact CPU/platform and production revision before ordering.

11. Contact Information

Company	CoreIPC
Sales Team	CoreIPC Sales Team
Email	sales@coreipc.com
Website	https://www.coreipc.com/

Disclaimer: This datasheet was compiled from ITX67U User Manual Issue 3.1. Product specifications, interface counts, supported functions and optional configurations may vary by production revision. Please confirm the selected configuration before order placement. All product names, trademarks and registered trademarks are the property of their respective owners.