

CoreIPC

EPIC37P

3.5-inch Industrial Motherboard Datasheet

Intel® Sandy Bridge-U / Ivy Bridge-U Platform

Document	Datasheet
Model	EPIC37P
Issue	1.1
Product Type	3.5-inch Industrial Motherboard
Website	www.CoreIPC.com

This datasheet is prepared based on EPIC37P User Manual Issue 1.1.

1. Product Overview

The EPIC37P is a CoreIPC 3.5-inch industrial motherboard supporting Intel® Sandy Bridge-U and Ivy Bridge-U processors. It integrates DDR3 memory, VGA/HDMI/LVDS display, dual Gigabit Ethernet, SATA and mSATA storage, Mini PCIe expansion, USB and serial connectivity, PS/2, GPIO, amplified audio, and 12 V DC input for commercial displays, machine vision, medical equipment, industrial automation, financial equipment, cloud terminals, and other embedded applications.

2. Key Features

- Supports Intel® Sandy Bridge-U / Ivy Bridge-U Celeron®, Pentium®, and Core™ i3/i5/i7 processors.
- 1 x DDR3 SO-DIMM slot supporting single-channel DDR3-1333/1600 memory, up to 8 GB.
- 1 x VGA, 1 x HDMI, and 1 x dual-channel LVDS display interface with Intel® HD Graphics 4000.
- Up to 2 x Realtek RTL8111H Gigabit Ethernet ports with Wake-on-LAN and PXE; single-LAN configuration optional.
- Storage includes 1 x SATA 2.0 interface and 1 x full-size mSATA 3.0 slot.
- 1 x Mini PCIe slot supporting Wi-Fi or 4G modules.
- Supports up to 8 USB ports; rear and onboard USB availability depends on LAN configuration.
- Provides 6 x COM ports. COM1 and COM2 support RS232/RS485; COM1 optionally supports RS422; COM3-COM6 support RS232.
- Realtek ALC897 7.1-channel HD audio with MIC/Line-out and 2 x 5 W stereo amplifier output at 2 ohms.
- 146 x 102 mm 3.5-inch form factor; 12 V DC input; operating temperature -10°C to 60°C.

3. Technical Specifications

Category	Specification
Processor	Intel® Sandy Bridge-U / Ivy Bridge-U Celeron®, Pentium®, and Core™ i3/i5/i7 processors. Source examples include i3-3217U, i5-3317U, and i5-3337U.
Chipset	Intel® HM76 / HM77 chipset.
Memory	1 x SO-DIMM; single-channel DDR3-1333/1600; up to 8 GB.
Graphics / Display	Integrated Intel® HD Graphics 4000; 1 x VGA, 1 x HDMI, 1 x LVDS; supports synchronous/asynchronous dual-display operation.
Ethernet	2 x Realtek RTL8111H Gigabit Ethernet controllers; optional single-LAN configuration; Wake-on-LAN and PXE support.
Storage	1 x SATA 2.0 interface; 1 x full-size mSATA 3.0 slot.
Audio	Realtek ALC897 7.1-channel HD audio; MIC/Line-out; stereo amplifier output, 5 W per channel at 2 ohms.
Expansion	1 x Mini PCIe slot supporting Wi-Fi / 4G modules.
USB	2 x USB 3.0 rear ports plus USB 2.0 interfaces; up to 8 USB ports depending on LAN configuration.
Serial Ports	6 x COM ports. COM1/COM2 support RS232/RS485; COM1 optional RS422; COM3-COM6 support RS232.
Legacy I/O	1 x PS/2 header. Ordering Information lists no LPT; no LPT interface is listed in the detailed specification.
GPIO	4-channel GPIO input/output.
BIOS	32 Mb Flash ROM.
Watchdog	Hardware watchdog timer, 256 levels (0-255 seconds).
OS Support	Windows XP / Windows 7 / Windows 10 / Linux.
Power	12 V DC input; 2-pin Phoenix terminal provided for 12 V DC input.
Operating Temperature	-10°C to 60°C.
Storage Temperature	-20°C to 70°C.
Operating Humidity	5%-95% RH, non-condensing.
Dimensions	146 mm x 102 mm.

4. I/O Interface Summary

4.1 Rear Panel I/O

Interface	Description
Display	1 x HDMI; 1 x VGA.
USB	2 x USB 3.0; 2 x USB 2.0. The source manual states the USB 2.0 pair is mutually exclusive with one LAN resource.
LAN	Up to 2 x RJ45 Gigabit Ethernet ports; single-LAN configuration optional.
Audio / Indicators	1 x Line-out (green); 1 x HDD/Power LED indicator.
Power	1 x 12 V DC input connector.

4.2 Internal I/O and Headers

Interface / Header	Description
LVDS	1 x 2 x 15-pin dual-channel 24-bit LVDS header.
Backlight	1 x 1 x 6-pin LCD backlight power connector; selectable 5 V / 12 V.
USB 2.0	3 x 2 x 5-pin USB 2.0 headers; dual-LAN configuration supports up to 6 onboard USB 2.0 ports, single-LAN configuration up to 4.
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; COM1 optional RS422 requires hardware modification.
PS/2	1 x 1 x 6-pin PS/2 keyboard/mouse header.
Audio	1 x front-audio header; 1 x 4-pin amplified speaker output header.
Power	1 x HDD power connector; 1 x 2-pin Phoenix 12 V input.
Front Panel	1 x 2 x 5-pin front-panel switch and LED header.
Fan / GPIO	1 x 4-pin CPU fan header; 1 x GPIO header.

5. Display Support

EPIC37P provides VGA, HDMI, and LVDS display outputs. The source manual specifies integrated Intel® HD Graphics 4000 and synchronous/asynchronous dual-display operation using VGA, HDMI, and LVDS. The LVDS interface supports dual-channel 24-bit output with selectable 3.3 V / 5 V / 12 V panel voltage and 5 V / 12 V backlight power.

Item	Description
Integrated Graphics	Intel® HD Graphics 4000.
VGA	1 x VGA output.
HDMI	1 x HDMI output.
LVDS	1 x dual-channel 24-bit LVDS interface.
Multi-display	Supports synchronous/asynchronous dual-display operation using VGA, HDMI and LVDS.
Panel Power	Selectable 3.3 V / 5 V / 12 V panel voltage; selectable 5 V / 12 V backlight power.

6. Serial Port Configuration

Port / Source	Default / Optional Function
COM1	RS232 default; supports RS485; optional RS422 requires hardware modification.
COM2	RS232 default; supports RS485.
COM3-COM6	RS232 through the 2 x 20-pin four-port serial header.
2-COM / 6-COM	Ordering Information for EPIC37P uses 6 COM / 2 RS485.

7. Power, Cooling and Reliability Functions

Item	Description
Main Power	12 V DC input.
Power Connector	1 x 2-pin Phoenix terminal for 12 V DC input.
AT / ATX Mode	AT-ATX1 jumper selects automatic power-on behavior.
Cooling	1 x 4-pin CPU fan header.

Item	Description
Watchdog	Hardware watchdog timer, 256 levels (0-255 seconds).
Clear CMOS	JBAT1 1 x 3-pin Clear CMOS jumper.
Panel Power	Selectable LVDS panel and backlight power settings.

8. Mechanical and Environmental Information

Item	Description
Form Factor	3.5-inch industrial motherboard.
Dimensions	146 mm x 102 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.
Display Panel Power	3.3 V / 5 V / 12 V panel options; 5 V / 12 V backlight options.

9. Ordering Information

Model	Description
EPIC37P-L26-3217U VER1.1	Intel® Core™ i3-3217U; 2 cores; 1.8 GHz; DDR3; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; 6 COM / 2 RS485; 12 V DC.
EPIC37P-L26-3317U VER1.1	Intel® Core™ i5-3317U; 2 cores; 1.7 GHz; DDR3; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; 6 COM / 2 RS485; 12 V DC.
EPIC37P-L26-3517U VER1.1	Intel® Core™ i7-3517U; 2 cores; 1.9 GHz; DDR3; HDMI + VGA + LVDS; 2 LAN; 8 USB; PS/2; 6 COM / 2 RS485; 12 V DC.
Options	Single-LAN configuration and COM1 RS422 hardware modification are available depending on production requirements.

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.
- The Ordering Information includes EPIC37P-L26-3517U with Intel® Core™ i7-3517U, while the detailed processor table lists i3-3217U, i5-3317U, and i5-3337U. This datasheet preserves the Ordering Information model and recommends confirming the exact CPU before ordering.
- The source manual is Issue 1.1, while the board photo and I/O layout are labeled EPIC37P VER1.0. The block diagram also labels the audio codec as ALC662, whereas the detailed specification lists ALC897. Confirm the production revision and BOM before ordering.

11. Contact Information

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Disclaimer: This datasheet was compiled from EPIC37P User Manual Issue 1.1. 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.