

CoreIPC

ITX19D

Mini-ITX Industrial Motherboard Datasheet

Intel® Bay Trail Platform

Document	Datasheet
Model	ITX19D
Issue	1.0
Product Type	Mini-ITX Industrial Motherboard
Website	www.CoreIPC.com

This datasheet is prepared based on ITX19D User Manual Issue 1.0.

1. Product Overview

The ITX19D is a CoreIPC Mini-ITX industrial motherboard supporting Intel® Bay Trail-I/M/D processors, including Celeron® J1900 and J1800. It combines DDR3L memory, VGA/HDMI/LVDS/eDP display options, up to dual Gigabit Ethernet, SATA and mSATA storage, Mini PCIe expansion, multiple USB and serial interfaces, legacy LPT/PS2, GPIO, and 12 V DC input for industrial control, communication, medical, financial, cloud-terminal, and commercial-display applications.

2. Key Features

- Integrated Intel® Celeron® J1900 quad-core or J1800 dual-core processor; compatible with Intel® Bay Trail-I/M/D series processors.
- 1 x DDR3L SO-DIMM slot supporting single-channel DDR3L-1333/1600 at 1.35 V, up to 8 GB.
- VGA, HDMI, LVDS and optional eDP display interfaces; optional dual-eDP or LVDS + eDP configurations.
- Up to 2 x Realtek RTL8111H Gigabit Ethernet ports with Wake-on-LAN and PXE; single-LAN configuration optional.
- Storage includes SATA 2.0 and full-size mSATA; exact SATA/mSATA population depends on configuration.
- Two Mini PCIe positions are described in the source manual for Wi-Fi/4G expansion; one supports half/full-size cards and one is half-size by default.
- Supports up to 8 USB ports; actual USB count depends on single-LAN / dual-LAN configuration.
- Provides up to 6 x COM ports. COM2-COM5 can support RS485; 2 x RS485 are standard in the described configuration and up to 4 x RS485 are optional.
- Onboard Realtek ALC897 7.1-channel HD audio with MIC/Line-out and 2-ohm, 5 W stereo amplifier output.
- 170 x 170 mm Mini-ITX form factor; 12 V DC input; fanless-capable thermal design; operating temperature -20°C to 60°C.

3. Technical Specifications

Category	Specification
Processor	Integrated Intel® Celeron® J1900 2.0 GHz quad-core or J1800 2.41 GHz dual-core; compatible with Intel® Bay Trail-I/M/D series processors.
Memory	1 x SO-DIMM slot; single-channel DDR3L-1333/1600, 1.35 V; up to 8 GB.
Graphics / Display	Integrated Intel® HD Graphics; VGA + HDMI or eDP, plus LVDS or eDP. Optional dual-eDP or LVDS + eDP configurations.
Ethernet	Up to 2 x Realtek RTL8111H Gigabit Ethernet controllers; single-LAN option; Wake-on-LAN and PXE support.
Storage	SATA 2.0 storage plus 1 x full-size mSATA slot. Source manual describes configurable SATA / 2.5-inch SATA / mSATA population.
Audio	Realtek ALC897 7.1-channel HD audio; MIC/Line-out; stereo amplifier output, 2 ohm / 5 W.
Expansion	2 x Mini PCIe positions described for Wi-Fi/4G; one supports half/full-size cards and one half-size position is not populated by default.
USB	Up to 8 USB ports; includes USB 3.0 and USB 2.0. Port count depends on single-LAN or dual-LAN configuration.
Serial Ports	Up to 6 x COM ports. COM2-COM5 can support RS485; 2 x RS485 are standard in the described configuration and up to 4 x RS485 are optional.
Legacy I/O	1 x LPT header; 1 x PS/2 keyboard/mouse header.
GPIO	4-channel GPIO input/output.
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: -20°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 (VGA position may share configuration with COM1 according to source manual).
USB	1 x USB 3.0 plus USB 2.0 ports; total count depends on LAN configuration.
LAN	Up to 2 x RJ45 Gigabit Ethernet ports; single-LAN configuration optional.
Audio	1 x Line-out (green); 1 x MIC input (red).
Power	1 x 12 V DC input.

4.2 Internal I/O and Headers

Interface / Header	Description
HDMI	1 x optional JHDMI 2 x 8-pin header sharing signals with the standard HDMI output.
VGA	1 x 1 x 12-pin JVGA header sharing signals with the DB15 VGA output.
LVDS / eDP	1 x 2 x 15-pin LVDS header and optional eDP headers; LVDS/eDP population depends on configuration.
Backlight	1 x 6-pin panel backlight connector; selectable 5 V / 12 V.
USB 2.0	Multiple 2 x 5-pin USB 2.0 headers; available ports depend on LAN configuration.
Serial	2 x standard JCOM headers plus 1 x 2 x 20-pin four-port serial header for COM3-COM6.
RS485 / RS422	2 x 2 x 3-pin RS485 wiring headers; COM2-COM5 support RS485; COM2 RS422 requires hardware adjustment.
LPT / PS2	1 x 2 x 13-pin LPT header; 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 / Panel	1 x 4-pin ATX power header; 1 x drive-power connector; 1 x 2 x 5-pin front-panel header.
Fan / GPIO	1 x CPU fan header; 1 x system fan header; 1 x GPIO header.

5. Display Support

ITX19D supports VGA together with HDMI or optional eDP, plus LVDS or optional eDP. The source manual also describes optional dual-eDP or LVDS + eDP combinations. LVDS supports dual-channel 24-bit output with selectable 3.3 V / 5 V / 12 V panel power and 5 V / 12 V backlight power.

Item	Description
Integrated Graphics	Intel® HD Graphics.
VGA	1 x VGA output; JVGA header shares the same signals.
HDMI / eDP	1 x HDMI output by default; the source manual describes an optional eDP configuration.
LVDS / eDP	1 x dual-channel 24-bit LVDS by default; eDP can be configured as an alternative.
Advanced Options	Optional dual-eDP or LVDS + eDP display configurations.
Panel Power	Selectable 3.3 V / 5 V / 12 V panel voltage; 5 V / 12 V backlight power.

6. Serial Port Configuration

Port / Source	Default / Optional Function
COM1	RS232; Pin 9 power selection is available according to the source manual.
COM2	RS232 default; RS485 supported; optional RS422 requires hardware adjustment.
COM3	RS232 default; RS485 supported.

Port / Source	Default / Optional Function
COM4	RS232 default; optional RS485.
COM5	RS232 default; optional RS485.
COM6	RS232.
RS485 Headers	JRS485_1 supports COM2/COM3; JRS485_2 supports COM4/COM5 and is optional.

7. Power, Cooling and Reliability Functions

Item	Description
Main Power	12 V DC input.
AT / ATX Mode	AT-ATX1 jumper selects power-on behavior.
Cooling	Fanless thermal design; CPU and system fan headers are also provided.
Watchdog	Hardware reset watchdog, 256 levels (0-255 seconds).
Clear CMOS	JBAT1 1 x 3-pin Clear CMOS jumper.
LVDS Enable	LVDS_EN1 jumper controls LVDS enable / disable.
Panel Power	Selectable LVDS/eDP panel and backlight power settings.

8. Mechanical and Environmental Information

Item	Description
Form Factor	Mini-ITX industrial motherboard.
Dimensions	170 mm x 170 mm.
Operating Temperature	-20°C to 60°C.
Storage Temperature	-20°C to 70°C.
Operating Humidity	5%-95% relative humidity, non-condensing.
Power Input	12 V DC.
Cooling	Fanless-capable design; fan headers provided.

9. Ordering Information

Model	Description
ITX19D-L12 VER1.0	Intel® Celeron® J1900; DDR3L; HDMI + VGA + LVDS; 1 LAN; 8 USB; 2 COM / 1 RS485; 12 V DC.
ITX19D-L12-J1800 VER1.0	Intel® Celeron® J1800; DDR3L; HDMI + VGA + LVDS; 1 LAN; 8 USB; 2 COM / 1 RS485; 12 V DC.
ITX19D-L26 VER1.0	Intel® Celeron® J1900; DDR3L; HDMI + VGA + LVDS; 2 LAN; 8 USB; 6 COM / 2 RS485; 12 V DC.
Display Options	Optional eDP, dual-eDP, or LVDS + eDP configurations are described in the source manual.
Serial Options	Up to 4 RS485 channels are optional; COM2 RS422 requires hardware adjustment.

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 motherboard block diagram identifies the audio codec as ALC662, while the detailed specification lists ALC897. This datasheet follows the detailed specification; confirm the production BOM before ordering.
- Storage, LAN, USB and display population varies by model. The source manual describes multiple mutually exclusive options including HDMI/eDP, LVDS/eDP, single/dual LAN, SATA/mSATA, and USB allocation. Confirm the selected production configuration.

11. Contact Information

Company	CoreIPC
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Disclaimer: This datasheet was compiled from ITX19D User Manual Issue 1.0. Product specifications, interface counts and optional functions may vary by production configuration. Please confirm the selected configuration before order placement. All product names, trademarks and registered trademarks are the property of their respective owners.