



LATTEPANDA **3**


DELTA Δ

User Manual

Please read this manual carefully
before using this product.

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 <http://docs.lattepanda.com>

 <http://www.lattepanda.com/forum>

Due to continuous improvement of the product,
if there were any changes, sorry for no further notice.





We're honored that you've chosen LattePanda 3 Delta - the most user-friendly and cost-effective product we've ever made, so please accept our heartfelt thanks.

The Pocket-sized Hackable Computer For Mega Creativity
LattePanda Team

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For more tutorial information, please visit: <http://docs.lattepanda.com>

Specification

Product	LattePanda 3 Delta
Processor	Intel® Celeron® Processor N5105 (Frequency: 2.00GHz ~ 2.90GHz)
Graphics	Intel® UHD Graphics (Frequency: 450MHz ~ 800MHz)
Memory	8GB LPDDR4 2933MHz
Storage	64GB eMMC V5.1
Wireless	WiFi 6 (802.11ax), 2.4GHz and 5GHz (160MHz) Supported; Bluetooth® 5.2
Ethernet	Intel® PCIe Gigabit LAN, Wake-On-LAN Supported
Video	HDMI 2.0b; DP 1.4 via USB Type-C; eDP 30Pin
Audio	Microphone + Headphone Combo Connector
USB	1x USB 3.2 gen 2 Type-A; 2x USB 3.2 gen1 Type-A; 1x USB 2.0 Type-C
Expansion Slots	M.2 Key B(2242/2252/2280): SATA III, USB2.0, USB3.0, SIM; M.2 Key M(2280): PCIe 3.0 x2; Micro-SD + Micro-SIM Combo Card Connector
Coprocessor	Microchip® ATmega32U4-MU
Female Headers	Atmega32U4 Pinout; BIOS Flash Pinout; 5V & 3.3V Output; 12V DC Input; USB 2.0; RS232; Audio; Status Control & Indication
TPM	Built-in TPM (2.0)
Power	PH2.0-4Pin DC Input: 12V; USB Type-C PD Input: 15V DC
RTC	CR927 3V
Dimension	125mm*78mm*16mm

Warning

Please use the **PD power adapter** specified.

Any external power supply used with the LattePanda shall comply with relevant regulations and standards applicable in the country of intended use.

This product should be operated in a **well ventilated environment** and, if used inside a case, the case should not be covered.

This product should be placed on a **stable, flat, non-conductive** surface during use and should not be contacted by conductive items.

Connecting incompatible devices to the GPIO connector may affect compliance or result in damage to the unit and invalidate the warranty.

All peripherals used with the LattePanda **should comply with relevant standards for the country of use** and be marked accordingly to ensure that safety and performance requirements are met. These articles include but are not limited to keyboards, monitors, and mice used in conjunction with the LattePanda.

The cable or connector used must offer **adequate insulation and operation** in order that the requirements of the relevant performance and safety requirements are met.

Instructions for safe use

To avoid malfunction or damage to your LattePanda, please observe the following:

Do not expose to water or moisture.

Do not place on a conductive surface whilst in operation.

Do not expose to heat from any source; the LattePanda is designed for reliable operation at normal ambient room temperatures.

Take care whilst handling to avoid mechanical or electrical damage to the printed circuit board and connectors.

Avoid handling the printed circuit board while it is powered. Only handle by the edges to minimize the risk of electrostatic discharge damage.

The LattePanda is **not designed to** be powered from a USB port on other connected equipment, if this is attempted it may malfunction.

Avoid unplugging power when the system is running to minimize the risk of EMMC damage.

Getting Started

Power On Your LattePanda

LattePanda 3 Delta has two power ports: USB Type C port and PH2.0-4Pin DC Port. You can power it by a USB Type-C PD power adapter or a 12V(2A or above) DC power adapter.

Tips:

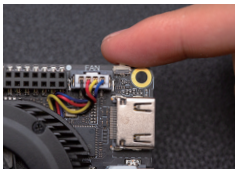
- 1.For the best compatibility and security, we suggest you using the USB Type-C PD power adapter attached.
- 2.Please confirm that the RTC battery has been installed, so the running time can be maintained even if the main power is turned off.
- 3.If the device was turned on without the RTC battery, it would need more time to boot.

Power-on Step



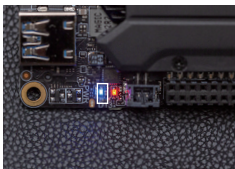
STEP1

Connect the LattePanda with the power adapter, as well as the keyboard, mouse, display.



STEP2

Short click the power button.



STEP3

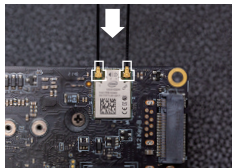
The blue LED will light up.



STEP4

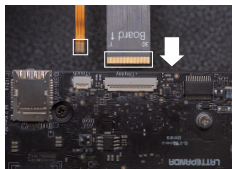
Wait for the OS start completely.

Connect WiFi/BT Antenna



Insert the round shaped end of the WiFi/BT antenna into the socket of the WiFi module. Note: Both two antennas are same and both need to be connected.

Insert FPC Cable



Please connect it with LattePanda BEFORE Power-on. And make sure the Golden Finger face the right side as shown in the figure.

Insert Micro-SIM Card



Insert the micro-SIM card into the micro-SD & micro-SIM combo card connector when using the M.2 4G or 5G module. The small notch of the micro-SIM card should facing inwards.

Use USB Type-C Port



The USB Type C port is used for connecting to external display, PD power adapter and USB device.
Note: The USB signal in this port is USB 2.0.

Use DC Power Port



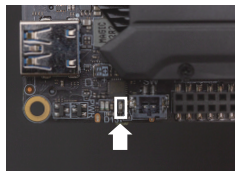
Recommended Power Adapter:
2A or above @ 12V
The voltage range of PH2.0-4Pin DC power input port is 10 ~ 15V.

Use M.2 Socket



There are two M.2 sockets on the LattePanda 3 Delta.
Key M(2280): Support M.2 NVMe SSD
Key B(2242/2252/2280): Support M.2 4G / 5G Module, M.2 SATA SSD

Control D13 LED



The red LED D13 is controlled by the digital pin 13 on built-in Arduino chip(ATmega32U4), which can be turned off by setting D13 as low level or disabling the MCU power control in the BIOS.

Use Real-time Clock



LattePanda 3 Delta uses a button cell for powering the RTC part, so it can continue to keep running time while the primary source of power is off or unavailable. The specification of the battery is CR927(3V).

Please visit docs.lattepanda.com for more information.

FAQ

Q:	A:
Can not boot up	<ol style="list-style-type: none">1. Check the power supply connect tight again, and the voltage is within the required range.2. Try disconnecting the power for a few seconds, then connect it and turn on the device again.
Blue LED doesn't turn off	Wait few minutes, and confirm the auto power on function in BIOS is disabled.
Cooling fan doesn't start	<ol style="list-style-type: none">1. The default setting is that the fan automatically stops when the temperature is low.2. Check the BIOS setting and change the cooling fan temperature setting.
No screen output	<ol style="list-style-type: none">1. Re-tight the display cable and wait few minutes until the system start completely.2. Confirm the voltage of RTC battery is enough. Low voltage or none battery will cause the OS takes a long time to start up.
Access the BIOS setup	Short press the power button and keep pressing Delete key of the keyboard until you see the BIOS Setup.

If you meet the problem that cannot be resolved, please visit:
<http://www.lattepanda.com/forum>
or send email to:
techsupport@lattepanda.com
Please describe the problem as specific as possible.

Customer Service

Please let us known as soon as possible if you have any problems with your LattePanda. We will do everything in our power to make it right. All faulty products can be replaced within 180 days (including working days and holidays). Any reports of problems with an order shipped more than 180 days ago cannot be serviced free.

Appendix



Block

- Arduino
Operating Voltage: 0V ~ 5V
- 12V DC Power Input
Operating Voltage: 10V ~ 15V
- I2C
Operating Voltage: 0V ~ 1.8V
- RS232
Operating Voltage: -12V ~ 12V
- USB2.0
Operating Voltage: 0V ~ 5V
- Audio
Operating Voltage: -5V ~ 5V

P.S.

Device: LattePanda 3 Delta

CPU State:

S0: Power ON

S3: Sleep

S4: Hibernation

SW: Power Switch

Type

- GND
- Power
- Serial Pin (Arduino Part)
- Digital Pin (PWM: ~)
- Analog Pin
- Functional
- Serial Pin (CPU Part)

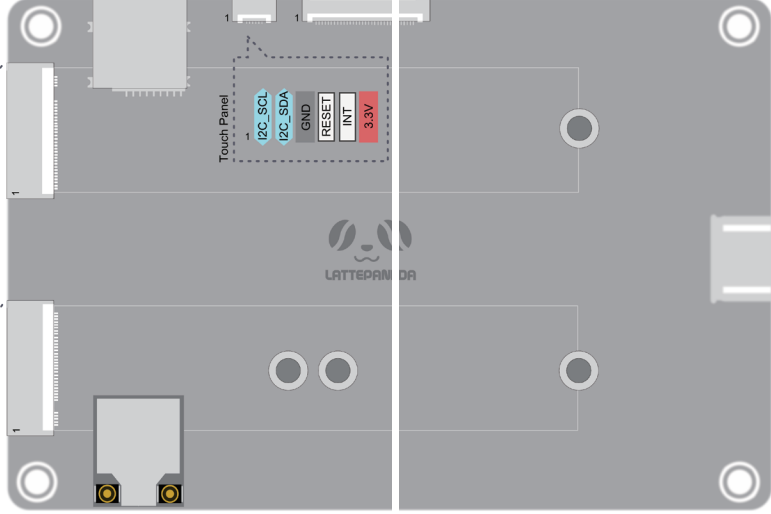
Appendix

M.2 B-key Connector
2242/2252/2280

- SATA III
- SIM
- USB 2.0
- USB 3.0

M.2 M-key Connector
2280

- PCIe 2x
- NVMe



Device: LattePanda 3 Delta

Type
GND
Power
Functional
Serial_Pin (CPU Part)