LATTEPANDA

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LATTEPANDA
DELTΔ 3

User Manual

Please read this manual carefully
before using this product.

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💬 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

Contents

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.

FCC Statement

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

.. Reorient or relocate the receiving antenna.
.. Increase the separation between the equipment and receiver.
.. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
.. Consult the dealer or an experienced radio/TV technician for help.

WARNING: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
The device must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

CE statement

Hereby, DFROBOT declares that this LattePanda Alpha is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
The full text of the EU declaration of conformity is available at the following internet address: www.lattepanda.com.
Frequency band:
2402MHz –2480MHz for BT
2412MHz – 2472MHz for 2.4G Wi-Fi
5180MHz–5825MHz for 5G Wi-Fi
EIRP Power (Max):
8.70dBm for BT
16.73dBm for 2.4G Wi-Fi
13.55dBm for 5G Wi-Fi Band 1 2 3
11.89dBm for 5G Wi-Fi Band 4

Name of manufacture: Zhiwei Robotics Corp.
Address: Room 503, 2 Boyun road, Pudong, Shanghai, P.R. China
Contact person: LattePanda team

5.15-5.350Hz band is restricted to indoor operations only in the following countries:

AT	BE	BG	CH	CY	CZ	DE
DK	EE	EL	ES	FI	FR	HR
HU	IE	IS	IT	LI	LT	LU
LV	MT	NL	NO	PL	PT	RO
SE	SI	SK	TR	UK		

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

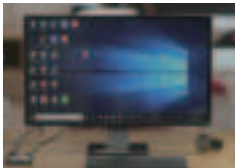Connect the LattePanda with the power adapter, as well as the keyboard, mouse, display.

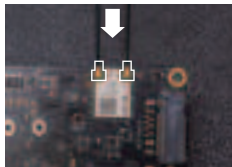### STEP2

Short click the power button.
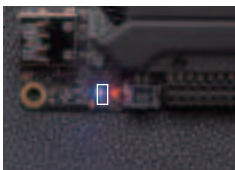
STEP3

The blue LED will light up.

STEP4

Wait for the OS start completely.
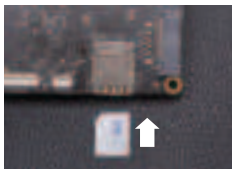
Connect WiFi/BT Antenna

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.
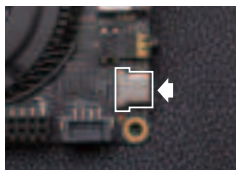
Insert Micro-SIM Card

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.
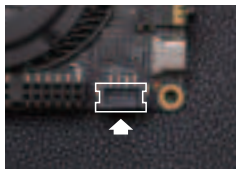
*This SIM card slot is only used for debugging.
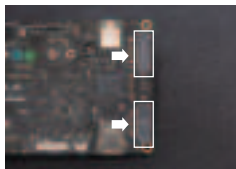
Use USB Type-C Port

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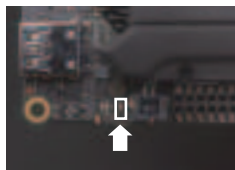Note: The USB signal in this port is USB 2.0.

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.
*This DC port is only used for debugging.

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 turn off by set D13 as low level or disable the MCU power control in the BIOS.

Use Real-time Clock

LattePanda 3 Delta uses 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.
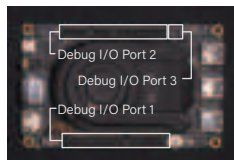
Debug I/O Port 1: Arduio & ICSP Pinout; BIOS Pinout; 5V & 3.3V Output; RTC Power Input
Debug I/O Port 2: 12V DC Input; USB 2.0; RS232; Audio; I2C; Power Management Pinout
Debug I/O Port 3: Switch Button Pinout

FAQ

Q:	A:
Can not boot up	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	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	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.